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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

Vol. 6

Washington, D. C., January 20, 1925

No. 1

GENERAL NOTES

During the Annual Meeting of the American Association for the Advancement of Science, and its affiliated societies, held in Washington from December 29 to January 3, Vernon Bailey spoke on "Our Friends and Foes in the Mouse World" and Dr. Harry C. Oberholser on "Conservation by Destruction" before the American Nature-Study Society. Arthur H. Howell talked on "Mammals of the Coastal Plain in Relation to Environment" before the Ecological Society of America. The Biological Survey maintained an exhibit throughout the week on the "Agency of Rats in Industry and Health," which attracted considerable attention and favorable comment. Dr. E. W. Nelson and Dr. H. H. T. Jackson are members of the Council of the American Association, each being a representative of the American Society of Mammalogists. Doctor Jackson also represents the Ecological Society of America on the Council of the Federation of American Biological Societies, and in addition acted as a member of the Nominating Committee of the Ecological Society.

Following their custom of many years W. L. McAtee and E. A. Preble, of the Biological Survey, and Dr. Alexander Wetmore, Superintendent of the National Zoological Park, made a Christmas bird census on December 23 near Mount Vernon, Va. The day was cold and clear and favorable for making observations. Although several birds usually present at this season were not observed, a rather full representation of possible species in certain groups raised the total to 50 species, which is believed to be the largest list so far recorded from this region at Christmas time. Species of unusual occurrence in winter included the coot, observed in large numbers, and the phoebe.

Alden Sampson, who was on the staff of the Bureau as its first game preserve expert from March 1, 1903, to March 31, 1904, died of pneumonia at St. Luke's Hospital, New York City, on January 7, 1925, in his 72d year. Mr. Sampson was an enthusiast in the larger problems of game preservation and while with the Biological Survey made extensive observations and studies on national forests in the interests of the native game. He was an artist, explorer, and big-game hunter and some of his writings were published by the Boone and Crockett Club. He was also a lecturer and writer on literature, art, and archaeology, and was for years professor of literature at Haverford College.

Dr. C. Hart Merriam, former Chief of the Biological Survey, who has been a member of the Board of Geographic Names since 1905, to which he was appointed while still Chief of the Bureau, resigned as chairman of the Board on January 7. His last act as a member of the Board was his appearance before the House Committee on Public Lands on January 9, in opposition to the Joint Congressional Resolution proposing to change the name of Mount Rainier to Mount Tacoma. Doctor Merriam is succeeded as chairman of the Board by Frank Bond, of the General Land Office.

Dr. Harry C. Oberholser talked by radio from Station WCAP, Washington, D. C., on January 12, on "Our Winter Birds," with special reference to the need for the winter feeding of the bobwhite quail while snow covers the ground.

The Civil Service Commission will broadcast from Station WCAP a short talk on "Our Feathered and Furred Friends and Enemies," being a presentation of features of the work of the Biological Survey. This is scheduled for an early date as one of a series of radio talks on the work of the bureaus of the various Departments and on examinations for entrance into the Government service.

Dr. T. S. Palmer will address the weekly Conference of Extension Workers of the Department in the Office of Cooperative Extension on Wednesday morning, January 21, on game conservation as it affects the farmer.

At the annual meeting of the Delaware Valley Ornithological Club held at Philadelphia, Pa., on January 15, at which the Biological Survey was unofficially represented by Dr. A. K. Fisher and Dr. T. S. Palmer, Doctor Fisher was made an honorary member.

The Committee on THE SURVEY, as reconstituted by Doctor Nelson for the calendar year is as follows: Dr. W. B. Bell, chairman, representing Economic Investigations; W. C. Henderson, for the Bureau as a whole; Edward A. Preble, Biological Investigations; W. F. Bancroft, Alaska Investigations; E. R. Kalmbach, Food Habits Research; F. G. Ashbrook, Fur Resources; Smith Riley, Game and Bird Reservations; Dr. T. S. Palmer, Importations; W. Roy Dillon, Migratory Bird Treaty and Lacey Acts; and W. H. Cheesman, Editor. News items or suggestions for the improvement of our house-organ will be welcome and should be handed in through the representative of the appropriate Division.

In connection with the luncheon given by the Bureau of Home Economics to the Board of Directors of the General Federation of Women's Clubs, on January 17, the Biological Survey by its exhibit on rats in industry and health showed that every home economics worker and member of a women's club should be interested in the rat problem. A panel also suggested possibilities to the suburbanite in raising Belgian hares, showing the different varieties of Belgian hare, the nutritive value of the meat in comparison with other meats, and the attractive dishes that can be prepared. How to utilize the Townsend mole, a serious pest in the Northwest, was set forth by an exhibit showing that the community would be relieved of the damage done by these animals if they were trapped for their pelts, which could be used so advantageously in the preparation of useful and ornamental garments. The extermination of predatory animals was also featured by exhibiting pelts of these animals taken in cooperative campaigns in the Western States. The exhibit was prepared by Lisle Morrison, in cooperation with the project leaders concerned.

The following publication of the Bureau was issued in December:

"Individual and Age Variation in Microtus montanus yosemite," by A. Brazier Howell. Journal of Agricultural Research, vol. 28, no. 10, pp. 977-1016, June 7, 1924. (Received December 4, 1924.)

Among manuscripts submitted for outside publication in December were:

Bailey, Vernon. "The Furry Muskrat and His Nice Warm House."
 Bell, W. B. "Destroying Pocket Gophers."
 McAtee, W. L. "The Bobwhite--Game or Non-Game," and "Folle Avoine."
 McAtee, W. L., E. A. Preble, and Alexander Wetmore. "A Christmas Bird Census (Washington, D. C.)."
 Mullins, W. A. "Wolf Extermination Work in Missouri."
 Oberholser, Harry C. "October and November Birds About Washington," and "The Travels of Birds."
 Preble, E. A. "The Chachalaca," "A Home Made of Paper," "Penguins, Birds of the Antarctic Seas," "The Southern Sea Elephant," and "Twin Babies of the White-tailed Deer."
 Stoddard, Herbert L. "Progress on Cooperative Quail Investigation, 1924."
 Stoddard, Herbert L., and Chas. O. Handley. "A Christmas Bird Census (Leon County, Fla.)."

BIOLOGICAL INVESTIGATIONS

Theo. H. Scheffer, who has been in the Washington, D. C., office since the middle of October, left for Payallup, Wash., his home and official station, on December 22. During his stay at the Washington office, the first visit for about ten years, he completed several reports which he has had on hand for some time. This opportunity to renew his acquaintance with the personnel and methods of the head office was greatly appreciated both by Mr. Scheffer and by his friends in Washington.

A. Brazier Howell spoke before the Biological Society of Washington on January 17, on "Mice That Live in Trees," his talk being illustrated by lantern slides.

ALASKA INVESTIGATIONS

E. P. Walker, Chief Alaska Game Warden, reached Washington on January 1, and is at present going over Alaska game and other matters with Doctor Nelson.

Olaus J. Murie, Field Biologist in Alaska, reached Washington on January 9. While here he will complete his report on caribou investigations and on the results obtained by the scientific collecting expedition which visited the Yukon-Delta region last summer.

The Alaska Game Act which had passed the Senate during the last session of Congress, passed the House January 6, and was approved by the President on January 15, thus becoming a law. The act in effect creates an Alaska Game Commission of five members, four to be appointed by the Secretary of Agriculture--one from each of the four judicial divisions of the Territory. The fifth member will be the chief representative of the Biological Survey in Alaska and will be the executive officer of the Commission. The four members of the Commission to be appointed by the Secretary will not receive a salary but a per diem allowance covering their expenses in attending meetings. The Commission will have authority to employ and remove game wardens, and its headquarters will be at Juneau. Under the bill provisions are made for giving proper protection to both game and fur bearers, and for such regulations as are necessary for carrying out these provisions.

ECONOMIC INVESTIGATIONS

The exhibit showing the ravages of rats in industry and health, prepared under the direction of James Silver, in charge of the Eastern Rodent Control District, in connection with the Washington meeting of the American Association for the Advancement of Science, included a cabinet in which mounted specimens of the rat were shown with damaged food and merchandise, two panels illustrating the economic status of the rat, one describing and illustrating the relation of the rat to the public health, and one picturing control methods. Mounted specimens of the black and brown rat also were shown, together with examples of rat damage to lead pipes, electric wires, soap, etc. A scale model of a section of a building showing features of rat-proofing construction to prevent infestation by the pest added to the effectiveness of the exhibit.

Carl Larson, a hunter assigned to the district including the greater part of the Apache and San Carlos Indian Reservations, Arizona, was fortunate in killing three adult lions and capturing three young ones during November. He had a rather unusual experience with the mother of the kittens, which refused to run from the dogs and only turned to escape when Mr. Larson was very near. This is the second instance noted by our hunters in Arizona of a female lion defending her young. Mr. Larson found it necessary to crawl for a considerable distance into a cave to kill a large male lion that would not tree.

PATHOLOGICAL DIVISION

During November the Pathological Division of the Bureau of Animal Industry, at Denver, reported positive on the examination of a dog killed for rabies near Monte Vista, Colo. John W. Crook, assistant predatory animal control leader of Colorado, reported that this dog had gone mad on a ranch 12 miles south of Monte Vista, and had bitten the rancher, his wife, and two of their children. This evidently is a sporadic case resulting from the rabies outbreak last spring on the eastern edge of the San Luis Valley.

As a result of the effective work during the past spring and summer for the suppression of rabies in the San Luis Valley, Colorado, it is understood that the Rio Grande Woolgrowers Association plans to raise a fund for cooperation with the Biological Survey and the Colorado State Board of Stock Inspection Commissioners for coyote eradication work on the Rio Grande National Forest and adjacent areas in Colorado.

Charles Crumbine, a hunter, was detailed during November to a ranch west of Loveland, Colo., which had reported 240 sheep killed by coyotes. On arrival he found some of the sheep had been killed by dogs instead, but the greatest loss was occasioned by the sheep being crowded into a corner and smothered.

The outstanding individual hunter's record for November in New Mexico was that of Foreman Echols of Grant County in trapping four wolves in one night. In addition to this splendid catch in the course of his poisoning demonstration work Mr. Echols accounted for 10 coyotes.

D. A. Gilchrist, leader in rodent control in Arizona, received the following letter from a farmer in Maricopa County, under date of December 1: "By using your rabbit poison I saved over \$2,500 worth of crops this year which rabbits would have destroyed. We killed more than 300 jackrabbits one night with your poison placed on fresh alfalfa tips scattered in the trails leading from the desert."

The occurrence of bubonic plague among ground squirrels in several of the coast counties in California has aroused no little concern among public health officials. Campaigns against both squirrels and rats have produced good results in San Luis Obispo County, where a special crew has been employed for the past four months. That the plague was also present in Monterey, San Benito, and Contra Costa is evident in the numbers of squirrels that have died in certain sections, and the horticultural commissioners of these counties are alive to the situation. Laboratory analysis by the U. S. Public Health Service showed that the disease affecting squirrels in San Luis Obispo and San Benito Counties was the plague. It is not believed by the Public Health Service that tularaemia was present.

Rat depredations were investigated during the month in the orange packing houses in the citrus sections of California, where the rat has adapted itself to local conditions and has become a serious pest. Joseph Keyes, leader in rodent control in California, reports that rats seem especially fond of citrus seed, showing a preference for those of grapefruit. In moving among and over the fruit in storage they carry the spores of decay on their feet and claws. A poison demonstration was given, in which lemon and orange seeds, a by-product from a citrus factory, were treated with the standard formula and, together with Hamburg steak containing barium carbonate, were distributed thoroughly within several buildings, resulting in the complete disappearance of the rats.

Inspection made during November of an 800-acre area south of Chadron, S. Dak., that was treated for pocket gophers last summer, showed, according to H. R. Wells, leader in rodent control, it to be 98 per cent cleared of the pests.

Recently officials of Brown County, S. Dak., forwarded to Mr. Wells a package of 100 front feet of some rodent which had been presented for pocket gopher bounty. The county agent was advised that the feet were those of meadow mice. Several hundred of these feet have been presented for bounty and the county is refusing payment for them.

Mr. Wells reports a little time given in November to studying the activities of timber squirrels in their relation to reforestation. While these rodents consume an enormous number of pine seeds in a year, it is possible that in at least the Harney National Forest, where there is considerable natural reforestation, they do more good than harm. The supervisor of this forest states that the "red squirrel is one of our most faithful assistants in gathering the cones from which the seeds are extracted. Every fall we fix a price which we will pay for cones and the settlers immediately search for squirrel hoards to secure them. Were it not for the squirrels storing these our cones would cost considerably more." In many sections of the Black Hills Forest, it is doubtful whether this value could be placed on the squirrel, because natural reforestation there is difficult and the loss of seeds is more noticeable. Squirrel caches are often found to contain three and four bushels of cones. One collector claims to have taken 14 bushels from one cache. It is interesting to note that this systematic rifling of the squirrels' winter food stores does not appear to affect their ability to come through the cold season in good condition, probably due to the fact that all the stores are not found.

Most of the month of November in South Dakota was devoted to preparation for winter rat-control work and organization for spring campaigns. The matter of a pocket-gopher campaign in the Hardy and Black Butte Districts of the Black Hills National Forest was also given additional consideration. The Forest Service is particularly concerned with this project as it affects grazing on the national forest. Several days were given to a survey of the grazing parks on the Settlers and Cold Creek Units, where in addition to forage actually consumed by pocket gophers it is estimated that at least 20 per cent of the range is unproductive due to the large mounds thrown up. A considerable loss is sustained also from stock which break through runways. The rangers in charge of the district at first questioned the advisability of eliminating pocket gophers, on the ground that the mounds offered a perfect seed bed for pine seed, but subsequent investigation failed to show the seedlings taking advantage of this. Weeds, however, were found to be gaining a foothold in the mounds. As a result of these findings the ranger has prepared a report of conditions and recommends that funds be set aside by the Forest Service for control purposes. It is hoped some 5,000 acres can be treated this coming year.

Leo K. Couch reports that a mouse outbreak occurred during the month on the upper Columbia River in Stevens County, Washington. After an investigation, followed by a poisoning demonstration, 2,000 pounds of poisoned grain was distributed to cover 1,100 acres of orchard owned by a single company at Marble. Investigation showed that snowshoe rabbits had caused some girdling last winter, this being the first damage noted from this species of rabbit.

James Silver and Morris A. Stewart, of the Eastern Rodent Control District, were engaged in field mouse investigations in orchards at Vienna, Va., during the fore part of December, following which they made a series of field-mouse control demonstrations in the fruit-growing sections of Pennsylvania. Carlyle Carr, of the same district, has completed arrangements for three county-wide campaigns against rats in Indiana and Illinois to be conducted in January.

FOOD HABITS RESEARCH

In the course of the calendar year 1924 a total of 2,388 stomachs of birds were examined in the laboratory. This brings the number of examined stomachs up to 92,336, slightly more than half of the total cataloged, 171,927.

A report of progress in the quail investigation has been prepared and it is hoped to have copies available shortly for distribution among those most interested in this cooperative project.

GAME AND BIRD RESERVATIONS

A. P. Nelson, Warden of the Elk Refuge, writes that there were 4,500 elk on the refuge and adjoining ranches the first of the year. About 15 inches of snow fell there in 21 hours beginning on the morning of December 18, and on the morning of December 20 a temperature of 52 degrees below zero was recorded.

Very cold weather is reported at Big Lake Bird Reservation, Arkansas. Since the 19th of December, the ground has been covered with sleet and the lake with ice; accordingly, ducks have left the refuge.

W. M. McDaniel, warden of North Platte Bird Reservation, Nebraska, reports that there have been a great many ducks and geese at that refuge, but due to extremely cold weather - a temperature of 21 degrees below zero on December 19 - the birds left before the first of the year.

A small increase over last year in the number of ducks at Key West Bird Reservation, Florida, is reported by the warden, Ludwig Bethel.

Forty of the surplus buffalo from the herd at the Montana Bison Range have been purchased by William Randolph Hearst and shipped to him at San Luis Obispo, Calif.

At Sullys Hill Game Preserve, North Dakota, a winter house for water birds has been constructed, and one and one-half acres surrounding it cleared for a bird yard. This yard has been fenced and three dams constructed to make two ponds for the ducks. The temperature recorded at Sullys Hill on December 13 was 32 degrees below zero. During the calendar year this refuge was visited by 8,147 persons. "Kate," the 22-year old buffalo which was sent to this reservation from Portland, Oreg., in 1918, is fed grain every day and is said to be in good condition.

IMPORTATIONS

The importation of foxes from Canada continued steadily during the month of December and telegraphic requests for permits requiring immediate attention were received daily by the Bureau. Permits were issued for 1,710 foxes during the month, and shipments were entered at a number of ports along the border from Vanceboro, to Blaine, Wash.

Several large shipments of birds, chiefly canaries and parrots for the Christmas trade, were brought in under permit at the port of New York.

B. S. Bowdish, Demarest, N. J., began inspections of foreign birds and mammals at New York on December 8, relieving W. De Witt Miller, of the American Museum of Natural History, who had been making the inspections since last June.

MIGRATORY BIRD TREATY AND LACEY-ACTS

Mr. Lawyer, who was out of the city during the greater part of December, is back at his desk.

The annual meeting of the Advisory Board, Migratory Bird Treaty Act, was held at the Cosmos Club, Washington, D. C., on December 10 with 14 members in attendance.

Warden Riddick, of Houston, Tex., reported under date of November 15 the greatest numbers of brant at the mouth of the Trinity River, Chambers County, Tex., that he had seen since he arrived in the State. He also said that at that time he found more Wilson snipe in the marshes of Chambers County than he had ever seen before.

Warden Whitehead, of Georgia, reports greatly increased numbers of mourning doves in that State this season, and that he has seen over a thousand in one field. They are feeding in the pine forests.

The following excerpts from wardens' reports concerning game conditions in their districts will be found of interest:

Warden Perry, Memphis, Tenn., November 9: "At the point where we boarded the motorboat there were many kinds of wild ducks, many thousands of them, mostly mallards, reaching almost half way across the river and,

judging from field-glass observation, at least two miles down the stream. On one bar about ten miles above Rosedale, Miss., we saw at least four thousand wild Canada geese, some of which were feeding on willows on the banks of the river."

Warden E. V. Visart, Little Rock, Ark., December 6: "There being no water in the creeks, the ducks are confined to the lakes and it would be impossible to describe the sight - for miles and miles it seems that there is not room for another duck."

Warden Riddick, Houston, Tex., November 26: "Found about three thousand dead ducks on a pond three miles north of Happy, Tex., and about five hundred dead ones on a pond seven miles southeast. Saw very few sick ducks - less than a dozen. Took samples of the water for transmittal to the Bureau to be analyzed. It looked very much like alkali poisoning."

Warden Valentine Raeth, Milwaukee, Wis., October 14: "Last night my partner, Peter Diedrich, and I surprised a party of five net fishermen at Bass Bay, Big Muskego Lake, Waukesha County (Wisconsin). They got away in such a hurry that they left a seine about 500 feet or more long, a new Ford touring car, two good overcoats and other clothing, a pocket book with \$445.40, a bank book with \$60 in it, and a gold watch. We deposited the money, bank book, watch, etc., with the Clerk of the court at Waukesha. We seized the car and seine and got a warrant for the owner of the car and bank book and John Doe warrants. So far nobody has claimed the money or car and we did not find the owner of the car at the address given."

The following appointments were made to the position of U. S. Deputy Game Warden during December:

Richard H. Smith, 5 West 37th St., Savannah, Ga.
Harry H. Riedinger, 6710 Penna. Ave., St. Louis, Mo.
Robert L. Pool, Gibson, Ga.

The appointment of Frank D. Voorhees, 1905 Grandview Ave., Portsmouth, Ohio, was terminated December 10.

Bert Landes, Bath, Ill., resigned as U. S. Deputy Game Warden, November 28.

Cases Terminated - Reports Received during December

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Hunting ducks in close season	\$1
"	2	"	Killing ducks in close season	\$15 each
"	1	"	Possessing ducks in close season	\$25
"	1	"	Possessing a meadowlark	\$1

Cases Terminated - Reports Received during December (Continued)

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier and Maitland**	1	Missouri	Killing ducks in close season	\$15
" " "	2	"	Killing ducks in close season	\$5 each
Barmeier and Heller*	1	"	Possessing part of a heron	\$1
" " "	1	Illinois	Killing a bullbat (nighthawk)	\$1
Britton	2	New Mexico	Possessing swans	\$50 each
Creech* and Heller*	2	Illinois	Hunting ducks in close season	\$10 each
Heller*	1	Missouri	Possessing ducks and snipe in close season	\$50
"	1	Illinois	Killing ducks in close season	\$25 and costs of \$25.48
"	1	"	Killing ducks in close season	\$25 and costs of \$17.20
Kelsey	1	South Dakota	Hunting ducks after sunset	\$20
"	1	"	Killing swans	\$25
Kelsey and Shaver	1	Missouri	Possessing a duck in close season	\$1 and costs
Linebaugh	2	Kentucky	Hunting doves after sunset	\$10 each
"	3	"	Possessing a loon	\$10 each
McCarley*	5	Florida	Killing ducks and doves after sunset	\$5 each
Magbee*	1	Georgia	Killing bullbats (nighthawks)	\$2.50
"	5	"	Killing bullbats (nighthawks)	\$1 each
Pacetti	1	Florida	Purchasing ducks	\$10
Perry and Dickerson*	2	Mississippi	Possessing robins	\$10 each
Smith	1	Massachusetts	Killing a tern	\$10
Smith and Wallace**	1	Maine	Killing turnstones	\$5
Stewart*	2	Delaware	Hunting ducks at night	\$1 each and costs
Terhune*	1	Alaska	Killing a swan	\$10 and costs
Whitehead	1	Georgia	Exceeding bag limit on ducks	\$10
"	10	"	Killing doves in close season	\$25 each

* U. S. Deputy Game Warden

** Deputy State Game Warden

Cases Reported for Prosecution

Armstrong* and Moore**	3	California	Killing ducks in close season
Baird* and Nelson**	1	Michigan	Possessing wood ducks
Barmeier and Heller*	1	Missouri	Possessing part of a heron
Bloxson, Muchbach, and Creighton*	2	Maryland	Trapping ducks
"	2	"	Hunting ducks at night
"	2	"	Shooting ducks from boat towed by powerboat

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Bonner*	3	North Carolina	Killing coot from motorboat
Britton	2	New Mexico	Possessing swan
Brown*	1	North Dakota	Killing a sandhill crane
Fuss**	3	Arizona	Killing ducks in close season
Hilliard and	5	New Jersey	Hunting ducks after sunset
Pierce*			
Linbaugh	2	Kentucky	Hunting doves after sunset
"	3	"	Possessing a loon
McCarley*	5	Florida	Hunting ducks and doves after sunset
Oberhaus*	1	Alabama	Hunting ducks after sunset
Pacetti	1	Florida	Possessing aigrettes
Pierce* and Hall**	2	New Jersey	Hunting ducks after sunset
Roahen	1	Illinois	Killing coots from motorboat
"	2	"	Killing ducks after sunset
Steele, O. D.	2	Iowa	Shooting at snipe after sunset
Steele, O. D.,	2	"	Hunting ducks after sunset
Russell and Larsen**			
Stewart*	2	Delaware	Hunting ducks at night
Terhune*	2	Alaska	Possessing swans

* U. S. Deputy Game Warden

** State Deputy Game Warden

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UNITED STATES DEPARTMENT OF AGRICULTURE

Vol. 6

Washington, D. C., February 28, 1925

No. 2

This issue of THE SURVEY has been delayed somewhat owing to the lateness of receipt of several January field reports, on which news notes for the month are chiefly based. Issuance a little later in the month than formerly will make it possible to include field notes for the preceding month rather than notes nearly two months old, as has sometimes been the case heretofore.

GENERAL NOTES

The agricultural appropriation bill for the fiscal year 1926 has passed Congress and is now a law. The appropriations for the Biological Survey have been increased by the addition of \$12,000 to the item for the maintenance of mammal and bird reservations for the construction of a highway through Sullys Hill National Game Preserve, North Dakota; \$5,000 to the item for the protection of migratory birds; and a new item of \$400,000 for the establishment of the Upper Mississippi River Wild Life and Fish Refuge. Items amounting to \$22,220, formerly appropriated for the Department of the Interior for the protection of game in Alaska, have also been added to the Bureau's appropriations. Small decreases were made in salary and expense items, so that the total increase for the Bureau over the appropriations for the fiscal year 1925 amounts to \$413,228 exclusive of the \$22,220 which was made available by special act of Congress for expenditure by this Bureau during the fiscal year 1925. The total appropriation for the Biological Survey is \$1,372,768.

The eighth regular meeting of the Government Business Organization was held at Memorial Continental Hall on January 26, 1925, and was attended by the Chief and other officials of the Bureau.

After reviewing the economies which had been effected beginning with the fiscal year 1921, the President stated his desire that expenditures this year, excluding the amount for the public debt retirement, be kept within \$3,000,000,000, necessitating a curtailment of the expenditure program by \$62,000,000.

Of the personnel of the Government as a whole the President said that "no more devoted, patriotic, and efficient employees can be found anywhere than Government servants. Their loyal effort and intelligent cooperation is making economy with efficiency possible." In speaking of the financial program for the fiscal year 1926 he stated: "For the fiscal year 1926 our financial outlook as presented in the Budget for that year is most encouraging. If the Budget program is sustained by Congress at this session I will be able in the next Budget to recommend a further reduction in taxes."

General Lord, Director of the Bureau of the Budget, followed the President in addressing the meeting. He referred to the Government as the world's greatest business organization, with 115,000,000 stockholders. In following up the President's desire for a reduction of \$62,000,000 in this

year's estimated expenditures he asked that the expenditure program be attacked vigorously, saying: "Begin with the little things and end with the big things. Travel less, buy less, ship less, build less, employ less, write less, print less, use less, waste nothing."

Talbott Denmead, C. C. Sperry, and Captain Moody Creighton of the Bureau's boat the Curlew were engaged from January 18 to 27 in taking a census of waterfowl of the lower Potomac, Currituck Sound, and Chesapeake Bay regions. Special attention was given to the abundance of swans, of which 814 were observed. These birds were reported to have been commoner earlier in the winter. Canvasbacks and black ducks were abundant on the upper Potomac, and Canada geese were present in large numbers in Currituck Sound. Adverse weather was encountered on the trip up Chesapeake Bay and the investigation was ended at Baltimore, where the Curlew was frozen in.

His former associates in Washington and in the field will regret to learn of the death of Henry Oldys, writer, lecturer, authority on bird music, and member of the staff of the Biological Survey from 1899 to 1916. Mr. Oldys died at Petersburg, N. Y., on January 19, 1925, in his 66th year, having been born on March 26, 1859. The sympathy of his former friends and co-workers is extended to the widow and their four children - a son and three daughters. The Biological Survey was represented at the interment at Rock Creek Cemetery, Washington, D. C., by members of the staff. While with the Biological Survey Mr. Oldys was author or co-author of many bulletins concerning game, progress in game protection, and the game law bulletins and digests between the years 1900 and 1911, and in addition contributed articles to the Yearbook as follows: "Audubon Societies in Relation to the Farmer" (1902); "Cagebird Traffic of the United States" (1906); and "Introduction of the Hungarian Partridge into the United States" (1909); and the following to other series: "Definitions of Open and Close Seasons for Game" (Biological Survey Circular 43); "Importation of Game Birds and Eggs for Propagation" (Farmers' Bulletin 197); and "Pheasant Raising in the United States" (Farmers' Bulletin 390).

The following manuscripts have been submitted for outside publication:

- Bailey, Vernon. "Traps for Catching Animals Alive and Uninjured."
Couch, Leo K. "A Hasty Bird Census."
Goldman, E. A. "Distribution of Mammals and Birds of Arizona by Life Areas"; "A New Bat of the Genus Trachops from Guatemala"; and "A New Kangaroo Rat of the Genus Dipodomys from Oregon."
Hanson, Karl B. "Lungworms in Foxes and Their Treatment."
Howell, A. B. "On the Alimentary Tracts of Squirrels with Diverse Food Habits"; and "On Pathologic Skulls of Captive Lions."
Jackson, Hartley, H. T. "Review of The Rat: Data and Reference Tables, 2nd Ed., by Henry E. Donaldson."
Jewett, Stanley G. "Nesting of the Sagehen in Siskiyou County, California (Centrocercus urophasianus)."
Kellogg, Remington. "Supplementary Observations on the Skull of the Fossil Porpoise, Zarhachis flagellator, Cope."

- Lincoln, Frederick C. "Loons and Horned Grebes in Pound Nets."
- McAtee, W. L. "Calendar Reform"; "Flying Cafeterias"; "The Role of Vertebrates in the Control of Insect Pests"; and "Work of the United States Biological Survey in Relation to the Citizens of New York State."
- Murie, O. J. "Eskimo Dogs of the Arctic Frontier"; and "The Nighthawk in Alaska."
- Oberholser, Harry C. "Conservation by Destruction"; "December and January Birds About Washington"; "The Migration of North American Birds: XXVII--Hummingbirds"; "A New Name for the Genus Actophilus Oberholser"; and "The Relations of Vegetation to Bird Life in Texas."
- Preble, E. A. "Fur Seals of the Pribilof Islands"; and "A Nest in a Snow Grotto."
- Ransom, Webster H. "Old Squaw Duck Taken in Franklin County, Washington."

The following articles by members of the Biological Survey which have been published in the Journal of Agricultural Research are now available in separate form:

"Anthelmintic Efficiency of Carbon Tetrachlorid in the Treatment of Foxes," by Karl B. Hanson and H. L. Van Volkenberg. (Q-2.) (Received January 28.)

"Individual and Age Variation in Microtus montanus yosemite," by A. Brazier Howell. (Q-3.) (Received February 3.)

"The European Hare (Lepus europaeus Pallas) in North America," by James Silver. (Q-4.) (Received February 19.)

The following radio talks by members of the Washington office were broadcast during January:

Lincoln, Frederick C. "The Mysteries of Bird Migration," Station WRC, January 29.

Oberholser, Harry C. "Winter Birds," Station WCAP, January 12.

-----"Feeding Birds in Winter," Station WCAP, January 30.

BIOLOGICAL INVESTIGATIONS

T. H. Scheffer assisted recently in securing skins of mountain beavers for the purpose of testing their fur value. Several days also were spent by him investigating damage to fir and maple trees by silver-gray squirrels in parks about Tacoma, Wash. This work included studies of the breeding habits, and endeavors by feeding to divert the animals from attacks on the trees.

The members of the Biological Survey have learned with deep regret of the losses recently sustained by two of their fellow workers in Biological Investigations. Fred J. Lincoln, father of F. C. Lincoln, died at Denver, Colo., on January 29, 1925, at the age of 58 years. Mrs. Lavera S. C. Oberholser, mother of Dr. H. C. Oberholser, died at East Haddam, Conn., on February 18, 1925, at the age of 93 years. The sympathy of the Biological Survey is extended to the surviving members of the families in their bereavement.

ALASKA INVESTIGATIONS

Orders have been issued transferring Warden Dufresne from Nome to Holy Cross, and Warden Warwick from Flat to Eagle. They will leave for their new stations as soon as the transportation season opens.

Thomas D. Jensen, of Nome, a member of the Territorial Legislature, was a visitor to the Bureau early this month, on his way from Fargo, N. Dak., to Juneau.

Warden Frank Dufresne, at Nome, reports the arrest of two natives last month for killing foxes out of season. Both were convicted. Two white and two red fox skins were seized and turned over to the United States marshal at Nome.

O. J. Murie is preparing a report on his trip to the mouth of the Yukon River last summer and on his work with the caribou. Present plans contemplate that he may visit the Alaska Peninsula during the coming summer. He spoke before the Biological Society of Washington on February 28, on "White Sheep in the Alaska Range."

Ernest P. Walker, chief Alaska game warden, on February 14 gave a short illustrated talk before the Biological Society of Washington on the commercial development of the blue fox industry in Alaska. Mr. Walker has been in Washington since early in January, and since the passage of the new Alaska game law has been engaged in aiding the Chief of Bureau in outlining the procedure necessary to putting the law into effect through the Alaska Game Commission. He will soon return to Juneau.

L. J. Palmer, assistant in charge of reindeer grazing investigations, has completed the manuscript for a bulletin on reindeer grazing, and is now making arrangements for the transfer of headquarters from Nome to Fairbanks. He expects to return to Alaska in the next few days. Before going to Fairbanks he will supervise the transportation of fifteen young caribou bulls down the Yukon River from Kokrines to its mouth, and from there to Munivak Island, where breeding experiments will be undertaken to improve the reindeer herds on the island.

In Southeastern Alaska exceptionally heavy snow, accompanied by severe weather, has driven the Sitka deer to the beaches, where they are endeavoring to subsist on kelp picked up at low tide. The animals were seriously threatened with starvation and urgent appeals were wired to the Bureau for help in feeding them. As there were no available funds for this work Doctor Nelson presented the situation to various individuals and organizations of the East interested in preserving wild life, with the result that contributions totaling \$2,319 were received and forwarded to Warden Terhune, at Juneau, to be used in purchasing feed for the deer. Individuals in Southeastern Alaska are also cutting brush for the deer and taking out hay for their use.

ECONOMIC INVESTIGATIONS

While riding a poison line northwest of Del Norte, Colo., in the Rio Grande Forest on December 18 Hunter William Krepps discovered the carcass of a freshly killed buck and noted lion tracks. As the snow gave wonderful tracking conditions he started horse-back and within a short distance jumped four lions and killed the whole outfit with his rifle. Stanley P. Young, leader in predatory animal control in Colorado, states that this is the best single-handed kill of mountain lions in such a short time ever made in that district.

Mr. Young also reports that Hunter Robert E. Dillon, on January 24 succeeded, with the aid of his two Airedale dogs, in killing a male mountain lion weighing approximately 200 pounds. In reporting the killing of this lion, his second one for January, Mr. Dillon makes the following interesting comments on the method used by this lion in killing deer:

"This particular lion had jumped quite a number of deer which, evidently, were feeding in one herd. Deer, as you know, are curious, and after jumping them the lion had gone down the trail, and the deer followed. On getting down the trail some distance, the lion jumped clear of it and back-tracked, and from the tracks I was able to ascertain that he had concealed himself under a cedar thicket, where he was waiting for his prey to come. You can readily see by his doing this that any of the deer that he might pick out would have very little chance of passing him without being caught and killed."

John W. Crook, assistant in predatory animal control in the Colorado-Kansas district, in January ran a mountain lion seven and a half hours with his dogs before treeing it. He reports that he finally shot it in one of the highest trees on the San Isabel National Forest.

The catnip oil recently supplied to some of the hunters in Colorado is bringing fine results, particularly in bobcat work.

Considerable destruction of sheep by coyotes has been reported by the citizens of Andrew County, Missouri, the heaviest loser reporting the killing of 56 head in the past six months.

R. E. Bateman, leader in predatory animal control in Montana, visited a former employee of this bureau at Monida, and learned of his capturing five wolves by decoying them close to his house with three tame ones kept in captivity. One of these wolves was shot from the door of the cabin while lingering around the wolf kennel.

E. B. Warren, a hunter in Montana, placed 633 poisoned baits in January and destroyed 38 coyotes. He picked up 10 coyotes that had been killed by poison in one day. J. E. Hurley, another hunter in Montana, killed 42 coyotes with 400 poisoned baits.

In checking up the poison work done in Utah since July 1, 1924, Geo. E. Holman, leader in predatory animal control in that State, reports that

hunters have distributed over 290,000 baits, and have extended their work into every county. In addition, he has furnished 95,000 strychnine capsules with instructions for their use to stockmen whose ranges he could not reach, and will use 358,000 additional capsules in the poison campaign now on. The hunters have also been issued 1,230 ounces of processed poison. Mr. Holman believes that this is the best piece of poison work ever done in the State of Utah, and it has been accomplished with less than 20 regular employees.

In Utah 18 hunters and 2 field assistants devoted the month of January to continuing poison work in spite of the extremely cold weather and considerable snow in most of the mountain districts which made work difficult and disagreeable. They distributed approximately 50,000 baits, using 155 horses, 30 sheep, and 15 head of cattle.

The Idaho Division has placed about 725,000 poison baits since July 1.

Leo K. Couch, leader of rodent control in Washington, has called attention in his district to the possibility of severe mouse damage to orchards this winter, particularly in localities where snow lies on the ground for any length of time. Over most parts of the State the meadow mouse, the species usually responsible for damage to trees, has not been abundant for a couple of years, but experience has shown that after a year or two of comparative scarcity these mice breed with astonishing rapidity. Conditions during the past summer have been ideal for most rodent life, and increases have been noted in all districts where strenuous poisoning campaigns were not resorted to. County agents and orchardists are therefore being advised to keep close check on the meadow-mouse situation.

Numerous reports of injury to root crops and flower bulbs by small rodents in western Washington have been received. On one farm south of Olympia, pocket gophers and mice were working on the same row of carrots and there were shallow mole burrows zig-zagging through the garden. The pocket gophers ate the carrots from below, while the field mice hollowed them out from the top or side, leaving a shell of the former tuber. Fresh tooth-marks helped to identify the animal in both cases. In areas where pocket gophers, mice, and moles are found there seems to be common use of the burrow system.

Mr. Couch also writes that following the October work in Yakima, Wash., where 154 rats were killed with calcium cyanide, a demonstration was arranged in January by the county agent, with city officials in attendance. The city dump probably has the heaviest infestation of any place in the state of Washington, and has been a rat problem for years. Calcium cyanide dust was pumped into the burrows and about 300 rats were killed on the surface. About 1,000 rats were accounted for in two hours. The city officials will purchase a duster and material and thoroughly cover the dump once or twice a month. In this way the rat population can be kept down.

A. M. Day, leader in rodent control in Wyoming, spent some time recently excavating a white-tailed prairie-dog burrow. It was found to

drop 7 feet, going almost straight down from the entrance, and then to follow horizontally for 12 feet to a nest of dry grass in a side pocket of 8 by 10 inches. The burrow then branched, one lead going toward a mound of earth 28 feet from the entrance and the other toward a dump 75 feet away.

D. A. Gilchrist, leader of rodent work in Arizona, and his assistants recently conducted an extensive and effective drive against pocket gophers in the State.

E. E. Horn, of the Eradication Methods Project, spent some time during January and February studying porcupines near Flagstaff, Ariz., in an effort to determine practical means of controlling their damage to forest production. Mr. Horn later went to Mesilla Valley, N. Mex., to conduct experiments upon pocket gophers.

Messrs. James Silver and M. A. Stewart, of the Eastern Rodent District, are spending some time in the New England States studying conditions of rodent infestation and damage and conferring with State officials.

C. E. Reno, of the rodent control branch in Arizona, and the county agricultural agent of Graham County held public meetings in January at principal points in the Gila Valley and made demonstrations to 207 cooperators, who received poison baits for use on 8,381 acres of land infested with pocket gophers. Each farmer was given a complete schedule of the meetings and placards were printed and placed at advantageous points over the valley. Splendid cooperation resulted and much was accomplished.

The thoroughness of the pocket gopher eradication work carried out under the supervision of Ben E. Foster, in Pima County, Arizona, continued to be an outstanding feature of the work in January. Every foot of ditch bank is being treated and the results of the work are so outstanding that D. A. Gilchrist, leader in rodent control in Arizona, has received numerous letters from farmers, bankers, and business men of Pima County telling of the success of the work.

Severe damage by jack rabbits has been reported during the past winter in several western States. R. H. Miller, assistant leader in rodent control in the New Mexico district, states that in the vicinity of Deming every farm visited showed the results of the ravages of rabbits. Alfalfa fields were damaged considerably, and fruit trees in many orchards were entirely destroyed by being barked all around and up to three or four feet above the ground. Where protection had been given by wire netting, sacks, or laths wired together, the rabbits had dug down into the ground 6 or 8 inches, barking the roots. A large proportion of grape vines and shrubbery also were destroyed in this county. Investigations showed that on account of the scarcity of forage in the surrounding range the rabbits had gathered about the comparatively few ranches near the city of Deming. Ordinary rabbit-proof fences proved inadequate as the rabbits soon learned either to dig under or go through the larger meshes of the wire toward the top of the fence.

A cooperative campaign against jack rabbits organized in January by B. B. Richards, leader in rodent control in Utah, covered an extensive area of unoccupied private lands east and north of Monticello, through cooperation of county, State, and Federal Governments and the public. On several nights from 1,500 to 2,000 rabbits were picked up.

E. G. Pope, assistant leader in predatory animal control in New Mexico, states that he has decided to follow the example set by THE SURVEY in the economical use of stationery and have his news letter mimeographed on both sides of the paper instead of printed, thus saving enough money to account for a few more coyotes each year.

Noonday radio talks were given through the Kansas Agriculture Broadcasting Station by A. E. Oman, leader in rodent control of that State, as follows: January 9, "Why Tax Counties with Scalp Bounties?"; and January 22, "Gunning for Jack Rabbits and Crows." Roy Moore, assistant in the rodent work in Kansas, gave a radio talk on January 15 on "Fur Farming in Kansas."

L. L. Laythe, leader in rodent control in the Colorado District, assisted by A. M. Day, leader in the Wyoming District, put on a splendid exhibit at the National Western Stock Show in January, consisting of a three-section panel on which was demonstrated the damage done by pocket gophers and the successful methods evolved for exterminating them. In addition, a glass-fronted case 3 inches wide, 3 feet high, and 6 feet long was filled with moist earth and on this a live pocket gopher, named "Oswald," was placed. Oswald would stay above ground until a crowd of 35 or 40 people had gathered, when he would start to work and demonstrate what he would do under actual field conditions. Digging down diagonally along the face of the glass until he had a nice-sized mound of earth thrown out he would plug up the runway and curl up in the corner just as under field conditions. Repeated from time to time this formed the attraction which drew crowds, thus giving the attendants an opportunity to explain effective methods for eradicating this pest on their farms. The general opinion that the rodent exhibit was one of the outstanding features of the show is confirmed by the fact that many persons would return to the exhibit three or four times, on each occasion bringing new visitors to see it and hear the advice given on extermination methods.

FOOD HABITS RESEARCH

The report of "Progress on Cooperative Quail Investigation: 1924" has been printed. This attractive booklet published by the committee representing the Quail Study Fund for southern Georgia and northern Florida, L. S. Thompson, Chairman, gives the results of the first year's investigations. The information is primarily for the subscribers to the fund and others interested in the preservation and increase of the bobwhite. In its 22 pages Mr. Stoddard has given a concise resume of the first year's work, as well as an outline for future activities. An introduction by Doctor Nelson and a reprint of an article, "More Quail - But How?" by Arthur B. Lapsley, explain the objects of the quail investigation.

FUR RESOURCES

In collaboration with the National Association of the Fur Industry the Division of Fur Resources is collecting statistical data on the fur resources of the United States with a view to assisting as far as possible in the development of the fur industry. Horace McMullen, of the National Association, is assisting Mr. Ashbrook in gathering all information considered to be of value to conservationists and the fur trade. The data needed concern foxes of various species, skunks, raccoons, minks, muskrats, opossums, martens, squirrels, beavers, fishers, rabbits, and all other fur bearers which may be raised in captivity.

Mr. Ashbrook and Dr. Karl B. Hanson attended a meeting of the New York State Fox Breeders Association at Watertown, N. Y., on January 8. That fox breeding has a large following in New York was evidenced by the attendance and the interest taken in the many instructive talks given. Doctor Hanson presented a paper on "Lungworms in Foxes and Their Treatment."

GAME AND BIRD RESERVATIONS

Mr. Riley returned to the office on January 20 after spending several months in the West and Southwest, during which he visited the following reservations: Big Lake and Walker Lake, Arkansas; Carlsbad and Rio Grande, New Mexico; Salt River, Arizona; Niobrara, Nebraska; Wind Cave, South Dakota; and the Montana National Bison Range.

Feeding the elk started at the Elk Refuge on January 5, and about the middle of February there were approximately 3,500 of these animals on the grounds at headquarters and 2,000 on the Germain tract, a total of 5,500. Calf corrals were constructed before the general feeding began. During January, A. P. Nelson, warden of the Refuge, reported that high and almost constant winds had packed the snow in drifts so solid that they would hold up a team in many places. The latter part of the month the weather became much warmer and, because of the ensuing thaw, the elk ate less hay, the quantity fed each day being cut approximately four tons from that given during the colder weather, when 16 tons per day were fed. Since the animals entered the Refuge in the fall, fourteen have been found dead or were killed by the local game warden because of their badly crippled condition.

A. F. Chambers, warden of the Wind Cave Game Preserve, South Dakota, shipped two buffalo and two elk from the preserve to Monroe, La., for the City Park early in January. One of the buffalo was presented to the city in accordance with the law which permits the Secretary of Agriculture to present to a municipality one buffalo from any surplus which may exist in herds under the control of the Department. This was the first shipment of live buffalo made from Wind Cave Preserve. Since then, six bull elk, purchased by the State Game Commission of Pennsylvania, have been shipped and a cow elk has been shipped to Indiana. The surplus animals on this preserve have been further reduced by disposing of 41 elk and 14 buffalo as meat. At the Montana National Bison Range, 218 buffalo, surplus animals in the

herd, have been disposed of during the fall and winter. Of these, 42 were sold alive.

The eight antelope at the Bison Range which were received from Nevada in September, are said to be doing well. A small pen was constructed for them and wild hay and sagebrush stored for feeding. A shelter open on one side and a feed rack and trough were also built and placed in the pen. Since January 1, a larger pen, inclosing approximately fifteen acres, has been completed and the antelope are turned into this each day. They seem to enjoy the greater amount of exercise possible on the new range.

Some effort has been made to determine the extent of beaver occupation within the Bison Range. The colonies appear to shift more or less from year to year. Fuel for the range is secured largely from trees cut by beavers.

Chinese pheasants are rapidly increasing both on the Bison Range and outside of it. Ducks remained there all winter in considerable numbers.

Wide interest has been taken in the movement of the Izaak Walton League to raise funds to purchase winter feed lands for the Jackson Hole elk herd, as set forth in the December, 1924, and the January and February, 1925, issues of Outdoor America, the magazine of the League.

All the game animals at Niobrara Reservation, Nebraska, are reported to be in good condition, and the antelope sent last September to this reservation from Nevada as doing unusually well. The lone young white-tailed deer stays in the small pasture with the antelope. Eight elk and two buffalo, surplus animals in the herds, have been disposed of as meat. A flock of several hundred mallards are wintering on the reservation and are using the spring and open brooks that come from it as roosting places. Quail appear to be on the reservation in their usual numbers but sharp-tailed grouse and prairie chickens are not so numerous.

Wesley D. Parker, warden of the Sullys Hill Game Preserve, North Dakota, has placed a tray near headquarters where birds can feed, and reports that chickadees, nuthatches, hairy woodpeckers, downy woodpeckers, and blue jays are regular visitors. The ducks in captivity are fed raw or cooked vegetables, chopped meat, and grain every day. Two of the surplus buffalo and twenty elk have been disposed of as meat.

An interesting note received from Harold P. Bennett, warden of the Tampa Bay Group of Bird Refuges, St. Petersburg, Fla., states, "We have three young skunks about the yard - chickens, skunks, and cats eat together. Have noted one skunk eating drop oranges. I have feared for the chickens but have had no trouble so far."

L. L. Bryan, warden of the Big Lake Bird Reservation, Arkansas, stated in a recent report that there were "millions of ducks" at the refuge and that although the lake was getting low there was ample water area on which the birds could rest and also plenty of food. He reports many mallards

and pintails, and some lesser scaups and ring-necks. The lake became very low last summer and at last so dry that thousands of fish died. When the migration began in the fall there was no water in the lake so the birds went on south. After rains early in December, however, they returned and have been on the refuge since that time, except during a short period when the lake was frozen, and even then some of the ducks remained. Late in November the warden constructed a dam to maintain the water acreage of the lake. The people of Hornersville, Mo., where the warden has his headquarters, were much interested in the dam and cooperated to the extent of raising funds to assist in its construction.

Unusually cold weather has been reported at Lake Malheur Reservation, Oregon, this winter, the temperature at one time being from 32 to 48 degrees below zero. During the extremely cold period several hundred cattle were frozen to death in the vicinity of the refuge. Due to a destructive fire which occurred in the spring and early summer and adverse climatic conditions, there was a very great falling off in the number of nesting birds of almost all kinds. The fall migration was also very greatly diminished, there being little food for the birds on or near the refuge. Supervisor L. E. Hibbard reports that a thaw has caused the birds to arrive in the valley at an early date, especially geese and ducks. Great quantities of water are now reaching the lake and it is expected that it will be well filled this year. George M. Benson, warden of the refuge, states that from all reports the numbers of ravens in the vicinity have greatly decreased during the past two months.

Fred M. Dille, warden, of Niobrara Reservation, Nebraska, went to Wichita, Kans., late in December, to undergo an operation made necessary as the result of an injury received about a year ago. He was able to return to the reservation and resume his duties on February 7.

IMPORTATIONS

The substance of a report was received on January 10 through the Director of Customs from the Collector of Customs at Milwaukee, Wis., relative to a mongoose in the possession of a young woman student at the University of Wisconsin, at Madison. The animal was brought from Africa by a sailor and was landed at Brooklyn, N. Y., on or about February 11, 1924. It was entered under the name of a "honey bear" and after some investigation by the customs officers was released to the owner, who took it to his home in Madison and presented it to the student at the university. A picture of the student and her pet appeared in one of the illustrated Sunday papers in the West and attracted the attention of I. S. Horne, of Kansas City, Mo., who forwarded it to the Biological Survey. The Bureau requested the Director of Customs to have the matter investigated by the collector at Milwaukee, and as a result the animal was seized and destroyed on December 30, 1924. So far as known this was the only mongoose brought in during the year.

Among the birds imported under permit during the month of January were 5 curassows and 5 chachalacas entered at the port of Brownsville, Tex.,

on January 10; 1 Reeves pheasant at Buffalo, N. Y., on January 17; and 300 Chinese pheasants and 90 bamboo partridges at Seattle, January 27.

The first permits for the importation of quail from Mexico this season were issued for entries at Brownsville, Tex., beginning on February 10. Permits for a total of 12,000 quail were issued for the month of February.

MIGRATORY BIRD TREATY AND LACEY ACTS

Mr. Lawyer attended the annual meeting of the Florida Game and Fish Protective Association at Kissimmee, Fla., on February 12 and 13. While in the South he will visit other points in Florida, and points in Georgia, Alabama, and other States in connection with the administration of the Migratory Bird Treaty Act.

After several hours' constant patrol of the chilly waters of Currituck Sound, N. C., in search of persons hunting migratory waterfowl at night, Wardens B. E. Smith and P. K. Hilliard on January 31 were rewarded by the capture, at 3 o'clock in the morning, of two offenders. When the violators discovered the wardens in close proximity they immediately jumped from their boat into the icy waters of the Sound, which example was followed by the wardens, and an exciting chase ensued through the adjacent marshes until the offenders were apprehended. They were operating with lights (commonly known as firelighting) and at the time of their capture had 10 geese which they had shot.

Warden Roehen during January obtained more than 20 cases in Chicago involving migratory game birds possessed in cold storage during the close season. He was ably assisted in his work by U. S. Deputy Game Warden Edward N. Scholler. Thirteen of the cases obtained have already been disposed of in Federal court by fines ranging from \$25 each and costs to \$275 and costs. The total fines collected from the 13 so far prosecuted amounting to \$850.

An order was issued by the Secretary on January 31, permitting the superintendent and bona fide employees of the Castalia Sporting Club, near Castalia, Ohio, to kill by shooting, under the direction and supervision of State Game Protector John Lindsley, of Sandusky, mergansers on the property mentioned at any time, for the purpose of protecting game fishes.

Federal Deputy A. R. Johnson, of Lewiston, Idaho, under date of December 22, 1924, reports the largest flight of ducks seen there for years. "One flock that I well remember," he says, "passed over the City of Lewiston that looked to be three or four hundred yards wide and one-half mile long. My judgment is that they were mallards and canvasbacks."

A letter has been received recently from U. S. Deputy Game Warden R. F. O'Toole, of Maryland, who is now on a hunting trip in Africa. Mr. O'Toole relates an interesting account of staying awake all night in one of the forests watching the game. He writes as follows:

"The first night I remained up I took two natives with me and went several miles into the forest. When one decides to remain in the forest all night there is no turning back after dark, nor are you allowed to sleep a minute. After I was all set for the night I told the natives to go home. They replied, "Oh, Bwana (Master) you can not stay here all night alone." "Well," I said, "Go home," so off they went before dark. Just after they left a lion growled about 50 or 60 feet from me. Then I heard footsteps coming. I thought it was a lion so I turned around to look and at about 50 feet stood his majesty, staring at me pretty sharply. Just as I turned a little more to get my rifle to my shoulder, he jumped into the high grass, so I did not get that fellow. It is wonderful to remain out all night in the wilderness. I have been 50 to 75 miles from a white man. You sit all night listening to the lions' roaring, to the hyenas starting up, then the leopards cry out, but the worst of all is when the monkeys and baboons get into a fight."

Some of us may not agree with Mr. O'Toole concerning the wonderful sensation of staying out alone all night in a forest such as he describes. Mr. O'Toole expected to shoot about a month in the Uganda and about two months on the Congo.

The following appointments were made to the position of U. S. deputy game warden during January:

Elijah C. Drake, High Island, Tex.
David M. Bowersox, 2281 Vine St., Cincinnati, Ohio.
Stephen O. S. Graham, New Brunswick, N. J.
James W. Smith, Van Buren, Ark.
James Chappell, Piggott, Ark.
Harry A. Fidler, R. D. No. 5, Canton, Ill.

Appointments of the following U. S. deputy game wardens were terminated during January:

Walton T. Conover, 812 Washington St., Pekin, Ill.
J. Ross Logan, R. D. No. 5, Canton, Ill.

Cases Terminated-Reports Received During January

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier, Creech*	2	Missouri	Killing killdeers	\$5 each
Barmeier, Ferrier**	4	"	Killing coot from motorboat	\$25 each
Bloxsom	1	Virginia	Possessing ducks in storage in close season	\$10
Bloxsom, Stevens**, Nottingham**	3	"	Killing ducks in close season	\$25 each
Bloxsom, Stevens**	1	"	Killing turnstones	\$1
Creech*, Heller*	4	Missouri	Killing ducks and snipe in close season	\$50 each
Heller*	1	"	Possessing ducks in close season	\$25
Hoffman, Obscur*	3	Louisiana	Selling ducks	\$50 each and costs
Hoffman, Bacon**	2	Alabama	Killing doves in close season	\$10 each
Holmes	1	Kansas	Killing ducks from motorboat	\$5
Farnham	3	New York	Offering to sell mounted specimens without permits	\$25 each
Kelsey, Shaver	1	Missouri	Possessing ducks in close season	\$1 and costs
Linebaugh	1	Kentucky	Killing doves after sunset	\$10
"	2	"	Selling ducks	\$25 each
Moore**, Armstrong*	3	California	Killing ducks in close season	\$25 each
Obscur*	1	Louisiana	Selling ducks	\$50 and costs
"	2	"	Selling ducks	\$25 each and costs
Riddick	1	Texas	Killing a dove in close season	\$1
"	1	"	Purchasing robins	\$1
"	3	"	Killing robins	\$1 each
Roahen	3	Illinois	Killing coots from motorboat	\$25 each and costs
"	3	"	Possessing ducks in storage in close season	\$25 each
Roahen, Scholler	9	"	Possessing ducks in storage in close season	\$25 each and costs
"	1	"	Possessing ducks in storage in close season	\$50 and costs
"	1	"	Possessing ducks in close season	\$150 and costs
"	1	"	Possessing ducks in storage in close season	\$150 and costs
"	1	"	Possessing ducks and grebes in close season and for sale	\$275 and costs
Scholler*	1	"	Possessing sandpipers	\$75
"	1	"	Possessing a robin	\$25
"	1	"	Killing robins	\$25
"	1	"	Killing robins and thrush	\$25

Cases Terminated--Reports Received During January (Continued)

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Scholler*	1	Illinois	Possessing sandpipers	\$25
"	1	"	Possessing insectivorous birds	\$100
Visart	1	Arkansas	Killing ducks in close season	\$5
"	1	"	Shooting ducks after sunset	\$10
"	1	"	Killing wood ducks	\$10

* U. S. Deputy Game Warden

** Deputy State Game Warden

Cases Reported for Prosecution

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier, Ferrier*	4	Missouri	Killing coots from motorboat
Barmeier, Maitland**, Heller*	5	"	Shooting at ducks after sunset
Barmeier, Creech*	2	"	Killing killdeers
Barnes**	3	California	Shooting at ducks after sunset
Bloxson	3	Maryland	Killing ducks from motorboat
Bloxson, Watson**	3	"	Shooting at ducks from motorboat
Bloxson	1	Virginia	Killing a duck in close season
Bonner*	2	North Carolina	Shooting at geese from motorboat
"	2	" "	Killing ducks after sunset
"	3	" "	Killing coots from motorboat
Charlton	1	West Virginia	Killing a coot from motorboat
Dickerson*	2	Mississippi	Shooting ducks from motorboat
Fernham, Overton**	1	New York	Hunting ducks after sunset
Hilliard	1	New Jersey	Offering to purchase ducks
Hilliard, Pierce*	1	"	Shooting at ducks after sunset
Hoffman, Obscur*	3	Louisiana	Selling ducks
Kelsey	23	South Dakota	Hunting ducks after sunset
"	2	"	Killing ducks after sunset
Landes****	1	Illinois	Possessing wood ducks
Linebaugh	1	Kentucky	Killing doves after sunset
"	2	"	Selling ducks
Mushbach	1	Virginia	Killing a duck after sunset
Obscur*	1	Louisiana	Selling ducks
Perry	1	Tennessee	Killing wood ducks
"	1	Mississippi	Shooting at ducks from motorboat
"	2	"	Killing ducks from motorboat
"	2	"	Killing doves in close season
Perry, Warren***	2	"	Killing ducks from motorboat
Riddick	1	Texas	Selling ducks
"	1	"	Killing geese from airplane
"	2	"	Hunting doves in close season
Riddick, Speckles*	2	"	Possessing killdeers
Riddick, Lewis**	1	"	Possessing a sandhill crane
Roahen	1	Illinois	Killing ducks prior to half an hour before sunrise

Cases Reported for Prosecution (Continued)

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Roahen	1	Illinois	Offering to purchase ducks
"	1	"	Offering to sell ducks
"	2	"	Killing ducks after sunset
"	3	"	Possessing ducks in storage in close season
Roahen, Scholler*	12	"	Possessing ducks in storage in close season
"	1	"	Possessing grebes and ducks in close season and for purpose of sale
Shaver	1	Minnesota	Offering to purchase ducks
"	3	"	Hunting ducks prior to half hour of sunrise, and shooting at a loon
"	10	"	Hunting ducks after sunset
Shaver, Rank**	1	"	Killing a tern
Shaver, Purdum**	6	"	Shooting at ducks after sunset
"	1	"	Killing a duck after sunset
Shaver, Rogalla***	4	"	Killing ducks after sunset
"	5	"	Shooting at ducks after sunset
Steele, Ray C.	3	California	Killing ducks after sunset
"	3	"	Shooting at ducks after sunset
Visart	1	Arkansas	Shooting ducks after sunset
"	1	"	Killing wood ducks
Whitehead, Pool**	1	Georgia	Killing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game warden.

*** Cooperator

**** Former U. S. Deputy Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

Vol. 6

Washington, D. C., March 31, 1925

No. 3

GENERAL NOTES

Papers by members of this bureau have been presented at recent meetings of the Biological Society of Washington as follows: "White Sheep in the Alaska Range," by O. J. Murie, on February 28; "The European Hare in North America--Is It a Menace?" by James Silver, on March 14; and "The Future of the Potomac Valley Below Great Falls," by Dr. H. C. Oberholser, on March 28.

The following publication of the bureau was issued in March:

"Spread of the European Starling in North America," by May Thacher Cooke.
Department Circular 336. Received March 12.

Manuscripts have been submitted for outside publication as follows:

Goldman, E. A. "Two New Ocelots from Mexico."

Howell, A. Brazier. "Asymmetry in the Skulls of Mammals."

Jackson, Hartley H. T. "Review of 'Bird Islands of Peru,'" by Robert Cushman Murphy.

Malloch, J. R. "The American Species of the Genus Griphoneura Schiner (Diptera, Sapromyzidae)"; and "Systematic Notes on and Descriptions of North American Wasps of the Subfamily Brachycistinae."

McAtee, W. L. "The Place of the Bird in the Modern World"; "The Relation of Birds to Woodlots"; and "The Birds at Dinner."

Preble, E. A. "The Arctic Lemming"; "Bird of Paradise Flower"; "The Cassowary"; "A Fisherman of the Depths"; "Grasshopper Gray"; "The Insistent Katydid"; "The Kinkajou"; "The Lover of Nature"; "The Mud-skipper"; "Mussels of the Shore"; "The Sea Horse"; "A Whip-tailed Lizard"; and "The White Cobra."

Scheffer, Theo. H. "Fur Farming, A Survey."

BIOLOGICAL INVESTIGATIONS

Dr. H. C. Oberholser and F. C. Lincoln, accompanied by photographers from the Office of Motion Pictures and the Division of Illustrations, have made several trips down the Potomac River recently to observe the thousands of canvasbacks, scaups, black ducks, and other species of waterfowl that have congregated below Washington. Among the more unusual ducks observed were greater scaups, ring-necked ducks, goldeneyes, baldpates, gadwalls, and old squaws. Three Canada geese afforded excellent opportunities for observation on March 9, and 21 of these birds were seen on the 12th. According to reports, larger rafts of ducks have been seen this season than for many years.

Theo. H. Scheffer, stationed at Puyallup, Wash., spent the first week in February making observations on the Yakima ground squirrels, with special reference to their emergence from hibernation. He found them abundant and active, and according to local observers some had been out about two weeks earlier. Mr. Scheffer also resumed his investigations of the silver gray squirrel in relation to maples and firs on the prairies about Spanaway and Hillhurst, as well as in the public parks of Tacoma. During the latter part of the month further attention was given to the ground squirrels, which were found to be at the height of the breeding season.

Dr. W. P. Taylor was at the Southwestern Forest Experiment Station, near Flagstaff, Ariz., late in January and early in February studying the winter habits of porcupines and other rodents with reference to the western yellow pine. These studies were prosecuted in cooperation with Everett E. Horn, of the Division of Economic Investigations. Porcupines were found to be inactive, confining their attention to a small group of trees, or even to a single tree, for a considerable period. Their food consists mainly of the needles and bark of the pines, with some mistletoe. Further studies are considered necessary before final decision can be made as to the extent of injury and methods of control. The Abert squirrel was not found to be injurious to trees to any serious extent.

ALASKA INVESTIGATIONS

Secretary Jardine has appointed Charles T. Gardner, of Juneau, as a member of the newly created Alaska Game Commission for the first judicial division; Thomas D. Jensen, of Nome, for the second division; Dr. W. E. Chase, of Cordova, for the third division; and Dr. P. S. Whitney, of Fairbanks, for the fourth judicial division. The fifth member of the commission and its executive officer and fiscal agent will be Ernest P. Walker, chief representative of the Bureau in the Territory. The first meeting of the commission has been called for April 10, at Juneau, at which time it will perfect its organization and begin actual work.

E. P. Walker, executive officer of the Commission, formerly chief Alaska game warden, who has been in Washington since early in January conferring with Doctor Nelson on Alaska matters, including the Alaska game law regulations, left for Juneau on the afternoon of March 24. He expects to reach Juneau on April 7, in time for the first meeting of the Commission.

William B. Miller, of Berkeley, Calif., has been appointed, effective May 23, assistant range examiner in Alaska, in the reindeer investigation work. Mr. Miller comes to the Biological Survey by transfer from the Forest Service. He leaves Seattle, Wash., on May 23 for Kokrines, Alaska, where he will meet L. J. Palmer, who left Washington, D. C., for Alaska on March 5, and assist in transporting young caribou bulls from that point down the Yukon to Nunivak Island.

A press dispatch dated at Seattle, Wash., March 16, states that "Alaska will enter the world meat market this season by shipping 960,000

pounds of reindeer meat to the United States. Five artificial ice plants have been established on the Seward Peninsula to take care of reindeer meat products. The packing plants have a total capacity of 7,500 head a year."

Reports show that the deer feeding operations saved many animals. Warden W. H. Terhune states that during the feeding 300 deer were seen in the vicinity of Sitka on one day, February 12; a total of 287 in Tenakee Inlet on two days, February 13 and 14; and 64 in Gambier Bay, February 27. Many other animals were seen scattered along the beaches singly and in groups. Mr. Terhune reports the snow about three and one-half feet deep in places on the beach, but that the deer were doing fairly well when the weather moderated February 27 and rain began. Feeding was discontinued February 28, as the snow was rapidly settling and the deer could again get about and obtain food.

ECONOMIC INVESTIGATIONS

Dr. W. B. Bell left Washington March 5 to visit field offices through the west and will be absent for several months.

Hunter Dave Crouch killed a female lion on the San Isabel National Forest, Colorado, on February 10, and in tracking her mate was led by his dogs to a cave containing the remains of two lion kittens which had probably been eaten by the old male.

Albert L. Jones, employed as a hunter in the Apache Game Preserve district, Arizona, in February captured 9 lions and 12 bobcats, though he did not have the equipment of most lion hunters, and his dogs were not well trained for the work. Hunter Cleve Miller caught four lions just south of this range.

February is usually the most favorable month for lion hunting in Arizona, and last year's record of 21 lions was broken this year by a catch of 22.

At a rat control demonstration in King County, Washington, Leo K. Couch, leader in rodent control, showed the method of applying calcium dust to rat burrows under poultry plants. On the ranch used for this purpose, 3,500 hens were housed in four buildings - two of them 200 and two 120 feet long - all with concrete foundations and floors. The owner had used every precaution to rat-proof his buildings, but the rodents burrowed under the cement foundations and worked holes in the cement floors and through the dust boxes. Traps and poisons had been used with little success, as the rats had access to grain, mash, eggs, and young and sick poultry, and were causing a loss of \$1,000 per year. After the cyanide dust was pumped under the buildings, 163 dead rats were picked up, and doubtless many more were killed. Experimental work will be done with small dusters to apply the cyanide to smaller poultry plants. Where conditions are right to confine the gas, and where trapping and poisoning fail, the cyanide can be used to good account. A few days after the

demonstrations, the owner made the following report to the cooperating County Agent: "By the looks of the rat situation, I hardly think it warrants me in getting an outfit, but I intend to be prepared for future trouble. I have seen only two or three rats since the grand execution although I've been snooping around constantly at night with the flash light. Formerly I saw hundreds. You must have exterminated two or three thousand rats."

By using the rat trapping methods recommended last fall by H. R. Wells, leader in rodent control in South Dakota, one large concern in Sioux Falls dealing in foodstuffs and unable to use poison took 6,400 rats in 90 days. At the present time, the man employed for this work states that rats are very scarce and that very little work is necessary to keep them in check.

The first attempt at organized pocket-gopher control east of the Missouri River was started in February when Mr. Wells began the organization of a cooperative pocket-gopher campaign in Minnehaha County, South Dakota. This project will be started in April with one township and operations will be compulsory on all lands.

Hundreds of letters have been received from cooperators telling of the benefits derived by killing rodent pests in Arizona. The following excerpts are typical:

"The value of killing rodent pests means the difference between success and failure on our ranch. We would have lost at least \$5,000 last year if we had not used the poison you sent us."

"We probably saved \$500 by poisoning pocket gophers on 146 acres. It is rather hard to estimate but the truth of the matter is that farming without some pocket-gopher control is impossible in the Yuma Valley."

"It is estimated that we saved several thousand dollars worth of crops and vines by using the pocket-gopher poison on our 80 acres."

Good results were obtained in Idaho in poisoning jack rabbits during the winter, especially during the month of January. At the end of February, a total of 20,760 pounds of bait had been used.

Arrangements have been made in Idaho to conduct a ground-squirrel campaign in 29 counties, and 72,000 pounds of poisoned bait have been provided for use on privately owned lands. Provision has also been made for the purchase of 110,000 additional pounds as the season advances, making available a total of 182,000 pounds of poisoned bait for which funds have been provided in the various counties.

James Silver and Morris A. Stewart, of the Eastern District, have recently returned from a trip through New Jersey, New York, western Massachusetts, Connecticut, and Vermont, where a series of conferences with extension officials and others interested in rodent control were held. Interesting information also was obtained relative to the present distribution and economic status of the European hare.

A number of demonstrations in rat control in public buildings and markets of Washington have been conducted by Frank Jarvis, of the Eastern District, and have proved very successful, some of the buildings being now wholly free from the pest for the first time in many years.

FUR RESOURCES

The Biological Survey is cooperating with State conservation and game commissions in encouraging the enactment of uniform trapping laws. Forty-two legislatures are in session, and twenty-seven of them are considering legislation relating to the conservation of fur bearers and have requested assistance from this office.

Marcellus W. Meek, of Arcadia, Calif., was recently appointed collaborator of this Bureau and is now on his way to Europe to investigate the raising of rabbits in England, France, Belgium, and Holland, where the business is conducted on a large scale. Mr. Meek will submit a report on his return, which will be of value to the Department as well as to the rabbit breeders of the United States.

Five martens were recently purchased in Idaho for breeding experiments at the Experimental Fur Farm, Saratoga Springs, N. Y., and Doctor Hanson reports that they arrived in excellent condition and are exceptionally good animals.

GAME AND BIRD RESERVATIONS

W. M. McDaniel, an employee of the Reclamation Service, has resigned as warden of the North Platte Bird Reservation (within the North Platte Project), Nebraska.

H. H. Plumb, an engineer of the Reclamation Service, also has resigned as warden of the Minidoka Bird Reservation (within the Minidoka Project), Idaho.

Harold P. Bennett, warden of the Tampa Bay Group of Refuges, Florida, in reporting on an inspection trip to the refuge, says, "Noted an aggregation of Ward herons at rest on the 'Cow' (a small island - part of Indian Key Refuge). While there, a large bald eagle came and rested on a limb amongst them. The herons apparently were not disturbed, which seems to show that an understanding exists between wild creatures."

George M. Benson, warden of the Lake Malheur Bird Reservation, Oregon, writes that thousands of ducks are arriving at the reservation, the most numerous species being pintails, mallards, and teals. Mr. Benson says that thousands of white-fronted and rose geese are resting on the reservation and feeding in the weeds that grow in the dry lake bed. The swans and geese on the north water line, he states, look like an immense drift of snow. Swans are coming in to the reservation very fast and many upland birds are passing through.

Ludwig Bethel, warden of Key West Bird Reservation, Florida, reports that a single flamingo was seen and reported to him by a fisherman about February 14. It was evidently a stray bird, blown from its course to or from the Bahama Islands, and the first of its species seen in that vicinity for a number of years.

A recent report received from Frank H. Rose, warden of the National Bison Range, Montana, states that the Range is beginning to provide some grazing.

An open winter at Belle Fourche Bird Refuge, South Dakota, is reported by the warden, George M. Wilson. Many ducks did not leave the refuge all winter. Southern ducks began to arrive there on February 1.

The latest report received from Charles M. Conger, warden of the Concomully Bird Reservation, Washington, stated that the ground was covered with snow and four inches of ice, and that as a result very few birds were on the refuge. He noticed some ruffed grouse coming in.

A. P. Nelson, warden of the Elk Refuge, Wyoming, informs us that the entire meadow there is practically bare of snow and a few blackbirds have been noticed.

George M. Benson, warden of the Lake Malheur Bird Reservation, in connection with the work of destroying ravens in order to protect the water birds on the refuge, has obtained two ravens alive which he has been holding in a small cage and feeding with a view to learning as much as possible concerning their habits. The Superintendent of the National Zoological Park at Washington expressed a desire to obtain these ravens for the Zoo, and they were accordingly shipped from Lake Malheur to Washington, where they arrived in satisfactory condition. An outside cage for their home at the Zoo will be constructed.

IMPORTATIONS

Shipments of quail from Mexico have continued steadily since February 10, and about 11,000 birds had been entered at the port of Brownsville, Tex., up to March 15. Permits for two shipments of 500 quail each at Laredo, Tex., were also issued. The inspector at Brownsville reports that the quail are arriving in fine condition.

Among other birds imported were 10 bleeding heart doves from the Philippine Islands and one Manchurian crossoptilon pheasant from Hamilton, Ontario.

MIGRATORY BIRD TREATY AND LACEY ACTS

Mr. Lawyer returned to the Washington office on March 3 following a three weeks' official trip in the South, which covered points in Florida, Georgia, and Alabama.

K. F. Roahen and M. A. Charlton, while performing official duty as Federal wardens, on March 3 in the Sangamon River bottoms, Illinois, were shot from ambush, both of them receiving serious injuries. Mr. Charlton, who is in charge of the Ohio district, was on special duty in Illinois assisting Mr. Roahen in suppressing violations in the Illinois River section. The wardens heard considerable shooting in the Sangamon River bottoms and while gradually working up to the point where it was going on came upon a full case of shotgun shells and two sheepskin-lined coats. While they were looking around from this point trying to locate the hunters, a man hidden behind a tree at a distance of probably twenty-five yards, evidently a guard, opened fire on them with a shotgun. The wardens, with practically no cover whatever, returned the fire, but the assailant was well protected by the tree in front of him. The hunter was then joined by two of his companions, who commenced to close in on the wardens from two sides, all of the hunters keeping behind trees. The hunter who had started the shooting was evidently wounded for he called saying that if the wardens would back out the hunters would back out and there would be no more shots fired. As the wardens were practically surrounded, this was their only choice. Mr. Charlton was shot mainly in both arms, hands, hip, and one leg, while Mr. Roahen was hit in both hands, arms, stomach, and face, each of the wardens receiving in their bodies dozens of duck shot. Following the shooting it was necessary for the wardens to walk back through the bottoms for 5 miles to their boat, row for some distance, and then drive to Havana, 25 more miles, before they could receive medical attention. Both of the men are still under the care of physicians, Mr. Roahen being in the hospital at Peoria, and it will be several weeks before either can return to active duty.

Immediately following receipt of information concerning the shooting, every possible agency of the Government was put to work in an effort to apprehend the assailants. Several clues have been unearthed and it is hoped that the criminals will be apprehended and placed behind the bars shortly. Certainly no effort will be spared to bring them to justice.

The official headquarters of Warden Geo. Tonkin have been transferred from Baker, Ore., to Sacramento, Calif. He has an office with representatives of the Division of Economic Investigations at 1015 L Street. His new assignment covers the entire State of California.

Messrs. Denmead, Dillon, Earnshaw, Callaghan, Grimes, and Hotchkiss attended the mid-winter banquet of the Maryland State Game and Fish Protective Association, at the Hotel Caswell, Baltimore, on February 25.

Warden E. V. Visart, of Little Rock, Ark., reports under date of February 28 that geese in some localities have become so gentle that they feed in the barn lots with domestic fowl. An Arkansas County farmer has turned an oat field over to them and protects them as if they were his property. Thousands of geese may be seen in this field, and apparently they have little fear of man.

In an address before the Rotary Club at Annapolis on March 5, Hon. E. Lee Le Compte, State Game Warden of Maryland, stated that he believed

from personal observation and from reports received from throughout the State that there were more wild ducks and wild geese killed in Maryland during the past hunting season than in any other one season for the past fifteen years. He was of the opinion that canvasbacks and redheads predominated. Mr. Le Compte credited these excellent shooting conditions to the Federal regulations prohibiting killing of wild fowl after January 31.

Meriwether Donaldson, who has been in charge of the Paul J. Rainey Wild Life Sanctuary in Louisiana, resigned effective March 16. Richard Gordon, who had been acting as Mr. Donaldson's assistant, has been designated to take charge of the sanctuary.

Frank L. Bischof, of Rock Port, Mo., resigned as U. S. deputy game warden on February 25.

Cases Reported for Prosecution

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Anderson***	1	Maryland	Selling ducks
Collins*	1	"	Killing a blue heron
Heller* and Creech*	1	Missouri	Killing a killdeer
Hoffman and Brown*	1	Alabama	Hunting ducks from motorboat
Hoffman and Obscur*	4	Louisiana	Selling ducks
Oliphant*	6	Virginia	Hunting ducks at night
Pacetti and McCarley*	3	Florida	Hunting doves after sunset
"	2	"	Hunting ducks after sunset
Perry	1	Mississippi	Possessing a wood duck; hunting ducks after sunset
"	1	"	Possessing a wood duck; offering to sell ducks
Riddick	1	Texas	Killing a dove after sunset
"	2	"	Selling ducks
Riddick and Speckles*	1	"	Selling ducks
Riddick	2	"	Killing doves in close season
Roahen	1	Illinois	Killing a bittern
"	7	"	Possessing ducks in storage in close season
Roahen and Scholler*	6	"	Possessing ducks in storage in close season
Roahen and Fisher**	15	"	Possessing ducks in storage in close season
Scholler*	1	Colorado	Unlawful interstate shipment of pheasants

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Scholler*	1	Wisconsin	Unlawful interstate shipment of partridges
Shaver	7	Minnesota	Hunting ducks after sunset
Shaver and Totten**	2	"	Shooting at ducks after sunset
Steele, O. D.	4	Iowa	Possessing ducks in storage in close season
Steele, R. C.	2	Washington	Killing ducks after sunset
"	2	"	Shooting at ducks after sunset
Taylor*	3	New Jersey	Shooting at ducks after sunset; hunting wood ducks
Thompson*	2	California	Possessing ducks during close season
Visart and Saunkeah**	2	Oklahoma	Possessing Bartramian sandpipers

* U. S. Deputy Game Warden

** Deputy State Game Warden

*** Cooperator

Cases Terminated-Reports Received During February

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Shooting at a grebe	\$75
"	1	"	Killing ducks in close season	\$150
"	1	"	Possessing ducks in close season	\$25
Barmeier and Maitland**	3	"	Hunting ducks after sunset	\$1 each and costs
Bloxson, Mushbach, and Creighton*	1	Maryland	Hunting ducks from motorboat	\$10 and costs
"	1	"	Hunting ducks at night	\$50 each and costs of \$12.75 each
"	1	"	Trapping a duck	\$35 and costs
"	1	"	Trapping ducks	\$75 and costs
Bloxson, Nottingham**, and Stevens**	1	Virginia	Trapping ducks	Two days in jail
Heller* and Creech*	1	Missouri	Killing a killdeer	\$10
Hilliard and Pierce*	1	New Jersey	Killing sandpipers	\$10
Hodgson**	1	Michigan	Possessing ducks in close season	\$75
Hoffman and Bacon**	1	Alabama	Killing doves in close season	\$10
Kelsey and Shaver	2	Missouri	Hunting ducks in close season	\$10 each and costs

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Kelsey and Shaver	1	Missouri	Hunting ducks in close season	\$25
Riddick and Maxon**	3	Texas	Possessing doves in close season	\$10 each
Roahen	1	Illinois	Offering to sell ducks	\$25 and costs
Scholler*	1	"	Possessing ducks in storage in close season	\$25
Shaver	3	Minnesota	Hunting ducks after sunset	\$10 each
Whitehead	2	Georgia	Killing doves in close season	\$5 each

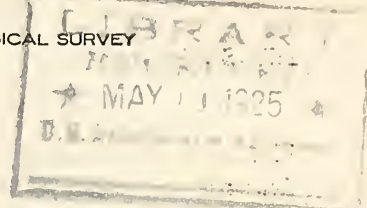
* U. S. Deputy Game Warden

** Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 6.

Washington, D. C., April 30, 1925

No. 4

GENERAL NOTES

We are glad to note in this issue that Dr. Nelson, who has been seriously ill in a local hospital, is now rapidly regaining his former good health at a country place near Washington and will soon be able to return to his desk.

A bird week was conducted in Washington county, Maryland, in March as an experiment to determine the value of such work as an extension project. The divisions of Food Habits Research, Biological Investigations, Migratory Bird Treaty and Lacey Acts, and members of the Eastern Rodent Control project, of the Biological Survey, and the University of Maryland Department of Agricultural Extension cooperated in this effort to interest the people of the county in bird life, to teach the economic value of birds to the farmer, and to prepare the way for a greater utilization of birds in agriculture. Addresses were made in most of the larger schools and at the larger towns and community centers throughout the county. Lantern slides and moving pictures were shown, and bird-house construction and bird-protection poster contests were held. About 5,500 school children and a large number of adults were addressed by bird specialists, including Dr. H. C. Oberholser, of the Biological Survey. The work was enthusiastically supported, with gratifying results in the formation of bird clubs and the impetus given bird study in schools. Talbott Denmead spoke at a meeting at Hagerstown, Md., on March 23, on the subject of conservation in Maryland and the work of the Biological Survey. Morris A. Stewart also gave several bird talks, and Doctor Oberholser made a second visit to Hagerstown to address over 300 teachers of the county.

At the seventh annual stated meeting of the American Society of Mammalogists, held at the U. S. National Museum, Washington, D. C., April 7-- 11, 1925, the following papers were read: A. Brazier Howell, "Asymmetry of the Skull in Mammals" (lantern slides); Remington Kellogg, "Changes in the Relations of Certain Bones in the Cetacean Skull and Their Bearing upon the Sense of Smell" (lantern slides); Arthur H. Howell, "Classification of the North American Sciuridae" (lantern slides); E. A. Goldman, "Surplus Game - A Problem in Administration: with Special Reference to Kaibab Deer" (lantern slides and motion pictures); Vernon Bailey, "Mammal Life of the Carlsbad Caves, New Mexico" (lantern slides and motion pictures); Frank G. Ashbrook, "Trapping Laws and the Fur Supply"; and Hartley H. T. Jackson, "The Care of Museum Specimens of Recent Mammals." Doctor Nelson's

illness prevented his presenting the paper scheduled on "The Predatory Mammal Problem." On the evening of April 9 an informal dinner was given at which buffalo steaks were served, lending a touch of the primeval to the occasion. Several short speeches followed. On April 11, after the close of the regular meetings, the members and guests visited the National Zoological Park, where Dr. Alexander Wetmore, the former superintendent, conducted them through the buildings and grounds; luncheon, which included elk meat sandwiches, was served in the Administrative Building. All officers were reelected with the exception that Dr. H. H. T. Jackson was made editor of the Journal of Mammalogy and was succeeded as corresponding secretary by A. Brazier Howell. The meeting from every standpoint was one of the most successful in the history of the organization.

Among papers given at recent meetings of the Biological Society of Washington were "Making Pets of Insect-eating Bats," by Mr. Bailey, on April 11, and "Forest Fires and Wild Life," by Smith Riley, on April 25.

Manuscripts have been submitted for outside publication as follows:

Carr, Carlyle. "The Groundhog Menace and Practical Methods of Control;" and "Rodent Pests of Importance to Orchardists."
Jewett, Stanley G. "Second Occurrence of the Pribilof Fur Seal on the Oregon Coast."
McAtee, W. L. "Notes on Nearctic Hemiptera;" and "Some Local Names of Plants--IV."
Murie, Olaus J. "A Visit With the Great Gray Owl."
Oberholser, Harry C. "February and March Birds About Washington, D. C."
Taylor, Walter P. "Old-Squaw Duck, Western Gull, and Glaucous Gull in Washington."

BIOLOGICAL INVESTIGATIONS

In company with representatives of cooperating agencies, Dr. Taylor visited the Santa Rita Reserve, where experiments on the effects of rodent work on the range are being conducted, on March 14. Dr. Taylor went to the Southwestern Forest Experiment Station, near Flagstaff, in April to continue studies of the relation of rodents to the forest.

T. H. Scheffer made several short trips during March to various points in central Washington, where he investigated life history conditions and damage by rodents. At St. Clair Lake silver gray squirrels were found to be doing some damage to young firs. During the last week of March the young of Citellus townsendi, estimated to be about 4 or 5 weeks old, were running about and evidently had been weaned, as nothing but green food was found in their stomachs. At Kennewick the young of Citellus mollis yakimensis were also active, but in smaller numbers.

Vernon Bailey returned on April 18 from a short trip to Potter County, Pennsylvania, where in company with a member of the State Game Commission and several deputy wardens and trapping instructors he demonstrated methods of trapping beavers alive and transporting them from one locality to another. With one cage trap three beavers were captured in two nights on the East Fork of Cinnamehoning Creek and taken to the headwaters of Youngwoman's Creek, in the southeastern corner of the county, where they were placed in a small pond having an abundance of aspen to provide food for a large colony. The beavers on East Fork were brought from Algonquin Park, Ontario, in 1920, and have increased from the original four to about fifty at the present time. The Game Commission will continue to use these in stocking other suitable streams, thus adding a valuable fur industry to the rich game resources of the State. Under the efficient game control of Pennsylvania, this experiment in beaver culture gives every promise of success and will be watched with interest.

ECONOMIC INVESTIGATIONS

A Canadian lynx, the second taken since the beginning of predatory animal work in Michigan, was captured by Hunter E. M. Corey in March. The species is very rare in this State.

Wolves have recently reappeared near Tyrone, Mo., where in one night in March they killed 19 goats. It is reported that wolves have been very active in killing sheep and hogs in Madison County, and a stockman living near Proctor reports a loss from coyotes of 11 sheep, 13 lambs, and 5 pigs. Stanley G. Jewett, leader of predatory animal control in Oregon, has received several letters of commendation from sheepmen who report that their flocks have passed the first stages of lambing with very little loss from predatory animals. We consider this condition principally the result of the poisoning operations.

In 1907 when predatory animals were still numerous in McCullough County, Texas, only 500 turkeys were shipped out; in 1924 a total of about 110,000 were shipped from this county. Practically no turkeys were shipped from San Angelo, Tex., prior to 1921, while in 1924 forty-two cars of turkeys were shipped from this point. As all these turkeys were raised on the open range, the remarkable growth in this industry would have been impossible had not vigorous warfare been waged against predatory animals.

The Idaho Division of predatory animal control has placed over 750,000 poison baits since the beginning of the current fiscal year.

The manager of a ranch at Yuma, Ariz., reports great success in poisoning jack rabbits with poison supplied by the Biological Survey. One can of the poison on some alfalfa placed outside the ranchman's alfalfa field accounted for 60 of the rodents. Rabbits last year caused a thousand dollars' damage on this ranch, but the owner expects to prevent further losses from this source.

In an Arizona nursery containing 30,000 pecan trees, 28,500 trees were destroyed before the owner knew what was going on. The area was trapped and 44 gophers were caught. The use of a few traps would probably have prevented this damage.

Gophers undermined 156 miles of irrigation ditch banks in Pima County, Arizona, causing great expense to farmers and irrigation companies in loss of water and for repairing breaks. Thorough cooperation was given Rodent Specialist Ben E. Foster, and the entire 156 miles of ditch bank was given a treatment of poisoned sweet potato baits, which resulted in the extermination of over 90 per cent of the gophers. It is stated that recently one pocket gopher caused a break in an irrigation ditch at Yuma, Ariz., which cost over \$2,000 to repair.

Experimental work on wood rats in the redwood belt in Mendocino County, California, was started during March. The lumber companies have begun replanting cut-over timber lands, and rodents, especially wood rats, have done much damage to the young trees, particularly the Douglas Fir. During the past two years about 600,000 trees have been planted, of which the rodents, principally wood rats, have destroyed between 35 and 50 per cent.

Operations against the rat in Los Angeles County, California, have been enlarged. Sixty men are employed full time in the trapping operations and over 12,000 snap traps are in use, with an average of 450 rats taken each day. About 60,000 rats and a squirrel were examined for plague up to March 4 and the squirrel and 119 rats proved positive for the disease.

Ground hog control campaigns in Indiana and Illinois have aroused much interest this spring. Four county-wide campaigns just completed by Carlyle Carr, of the Eastern Rodent Control District, have proven very successful and have resulted in requests for similar work in twenty other counties in the district. Over \$6,000 has been raised by county commissioners for the purchase of fumigation material which in most cases will be distributed without cost to the farmers. Mr. Carr has also completed since the first of the year six anti-rat campaigns, which have resulted in the estimated destruction of 140,000 rats at a total cost for the six campaigns of only \$653.82.

Recent rodent-control activities in New York State have resulted in requests for ground hog and other rodent-control assistance from fifty-one counties in that State. Morris A. Stewart, of the Eastern Rodent Control District, has been assigned to carry on this work and arrangements are being made for the removal of his headquarters to Cornell University, Ithaca, N. Y.

FOOD HABITS RESEARCH

Remington Kellogg, in his study of the food habits of toads, has completed the examination of stomach material from about 2,900 animals, including 39 different species, all occurring in North America north of Panama. So numerous are the varied items of diet that over 10,000 cards will be needed to file this information, on the basis of which a bulletin on the economic status of the various species of toads will be prepared.

C. C. Sperry has completed the examination of 35 stomachs of mammals sent in by the University of California. These stomachs, including those of skunks, raccoons, minks, gray foxes, and bobcats contained material that could not be conveniently identified at the university and hence were sent to our laboratory. The Biological Survey has received a donation from the university of the contents of a series of stomachs of the Yosemite Park toad (Bufo Canorus), hitherto unrepresented in our collection.

FUR RESOURCES

The March report covering the activities of the Experimental Fur Farm at Saratoga Springs recorded the birth of three litters of foxes, a total of 12 pups, all of which are doing well.

David C. Mills, General Director of the National Association of the Fur Industry, who is collaborating with this bureau in assembling statistical information relative to the fur resources of the United States, recently visited the bureau to discuss plans for the future.

The marriage is announced of Dr. Karl B. Hanson to Miss Katherine McAloon on April 19, in Keeseville, N. Y. Congratulations and best wishes are extended. Doctor Hanson will make his home in Saratoga Springs, N. Y.

GAME AND BIRD RESERVATIONS

In order to improve grazing conditions 460 buffalo have been penned at the Bison Range and are being fed hay. The animals are in fine condition.

Two buffalo calves from the herd at the Bison Range have been shipped to Jackson, Mich., for the City Park. One of the buffaloes was presented to the city by the Government; the other was purchased with funds raised by the school children.

Fire started on March 26 a short distance south of Martin, S. Dak., and fanned by winds of from 25 to 30 miles per hour developed into one of the most extensive prairie fires which has occurred in that locality for many years. After burning over a strip of grass land 14.5 miles long and 35 miles wide in South Dakota and Nebraska the fire was reduced to small and isolated blazes and was finally extinguished at a point 30 miles northeast of Valentine, Nebr., on March 28. The loss of the prairie hay crop was estimated at over \$1,000,000. In response to the call for volunteers, men from all towns in the vicinity joined the army of fire fighters, among these being 1,500 Sioux Indians. The fire spread across the north pasture at Niobrara Reservation with great rapidity and burned all the range grass between the Big and Little Beaver Creeks, but did not harm the cabin, animals, or fence. The rapidity of the fire's approach resulted in great loss of prairie chickens and grouse which had been plentiful in this region.

After obtaining permission from the Department of Agriculture, the Bureau of Fish and Game of the State of Nebraska has placed dams in a small spring-fed creek at Niobrara Reservation to create rearing ponds for young brook and rainbow trout, which it is hoped may furnish a valuable addition to the fish production of the State.

Six wild turkeys, two males and four females, arrived at Niobrara Reservation from the Wichita Game Preserve, Oklahoma, on March 20. They were liberated in a pen and soon became quiet and started feeding.

Feeding of the elk ended near headquarters at the Elk Refuge on March 24, and at the Ditwater tract (within the Refuge) on March 28.

Forty-one boxes for tree-nesting ducks have been put up along Sweetwater Lake this spring by W. D. Parker, Warden of Sullys Hill Game Preserve, North Dakota. The first ducks going north this season were seen by the warden on March 23.

Sixty boxes for tree-nesting ducks have been put in place by L. L. Bryant, Warden, Big Lake Bird Reservation, Arkansas.

Apparently due to very low water, less swan are said to be nesting at Lake Malheur Reservation, Oregon, this season than at any previous time in the memory of the warden. Supervisor L. E. Hibbard states that while birds are numerous at Lake Malheur, the valley in the locality is nearly devoid of waterfowl.

Charles G. Eaton, of Coronado Beach, Fla., has been appointed to cooperate with this bureau by acting as warden at Mosquito Inlet Bird Reservation, Fla., during the breeding season this year. The services of Mr. Eaton are obtained through the cooperation of the Halifax River Bird Club, of Daytona Beach, Fla.

IMPORTATIONS

The importation of quail from Mexico has been very successful this season. A total of 33,500 birds have been brought in up to April 11, 31,000 at Brownsville, Tex., and 2,500 at Laredo, Tex. Facilities for handling quail at the border have improved considerably, and recent reports indicate very few losses of birds in transit.

MIGRATORY BIRD TREATY AND LACEY ACTS

Wardens K. F. Roahen and M. A. Charlton, who were shot from ambush on March 3 while patrolling the Sangamon River bottoms in Illinois, are recovering from their numerous wounds as rapidly as could be expected. Mr. Roahen has left the hospital in Peoria and Mr. Charlton, who has been receiving treatment at his home in Columbus, Ohio, is also improving. Mr. Roahen was operated upon ten times for the removal of shot from the head, arms, and hands.

Warden J. V. Kelsey's weekly report for March 22-28 gives the following interesting reference to wild fowl conditions in Illinois:

"On Thursday, March 26, while in the vicinity of Wilcox Lake (adjacent to the Sangamon River in Illinois), I witnessed as remarkable a flight of ducks in northern migration as I have ever seen outside of my own district, South Dakota. For an hour and a half prior to sunset the sky, as far as one could see, was literally alive with ducks moving steadily northwest. These birds were flying high and were voicing the calls only heard when in migration flight. This phenomenal flight continued far into the night and it is impossible to even hazard an estimate as to the number of birds winging their way to northern nesting grounds. This flight, which undoubtedly marked the last heavy movement of birds toward the north for this spring, was one to linger long in memory."

The ninth conviction for killing migratory waterfowl from an airplane was obtained in Federal court at Paris, Tex., on March 2, 1925, when an offender charged with employing such means in the killing of wild geese entered a plea of guilty and was fined \$10.

Cases Terminated--Reports Received During March.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier, Heller*	2	Missouri	Killing swallows and nighthawks	\$10 each
Bernd*, Horner**	2	New Jersey	Possessing a heron and robins	\$10 each
Bickley**	1	So. Carolina	Killing robins	\$15
Bloxsom, Watson**	3	Maryland	Shooting at ducks from motorboat	\$25 each
Britton	1	New Mexico	Killing a swan	\$25
Collins*	1	Maryland	Killing a heron	\$10 and costs
Creech*, Heller*	1	Illinois	Killing a duck in close season	\$25 and costs of \$16.81
Heller*, Mestel*	1	"	Hunting ducks in close season	\$1 and costs of \$11.80
Hilliard, Pacetti, and Bass*	4	Florida	Killing ducks in close season	\$5 each
Hilliard, Pacetti	4	"	Killing ducks in close season	\$5 each
" "	1	"	Serving and selling ducks	\$100.
Hilliard, Pierce*	1	New Jersey	Hunting ducks after sunset	\$10
Kelsey, Shaver	1	Missouri	Possessing ducks in close season	\$1
Maurek*, Brown*	2	No. Dakota	Killing ducks in excess of daily bag limit	\$25 each
Mestel*	1	Illinois	Killing ducks in close season	\$15 and costs of \$39.75
"	2	"	Hunting ducks in close season	\$15 each and costs of \$5.50 each
Pacetti	4	Florida	Killing terns and gulls	\$5 each
Riddick	2	Texas	Hunting doves in close season	\$10 each
"	1	"	Killing robins	\$25
"	1	"	Killing geese from airplane	\$10
Riddick, Hampe*	1	"	Killing doves in close season	One hour in custody of marshal

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Roahen	1	Illinois	Killing coot from motorboat	\$10 and cost of \$11.55
"	1	"	Selling ducks	\$10 and costs of \$11.65
Roahen, Scholler*	1	"	Possessing ducks in storage in close season	\$150 and cost
Shaver	1	Minnesota	Possessing ducks in storage in close season	\$5
Stadlmeir*	1	Rhode Island	Killing sandpipers	\$20
Steele, R. C.	3	Washington	Killing ducks after sunset	\$25 each
Whitehead, Norrell**	1	Georgia	Killing bullbats	\$10

* U. S. Deputy Game Warden

** Deputy State Game Warden

Cases Reported for Prosecution

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier, McGee**	1	Missouri	Selling ducks
Barmeier, Creech*	1	"	Selling ducks
Barmeier, Allme- roth**, and Maresh**	2	"	Selling ducks
Barmeier, Wild- berger**	1	"	Possessing ducks in close season
Birsch, Bonner*	1	North Carolina	Selling ducks, and possessing ducks in close season
Bloxson	1	Maryland	Shooting at ducks from motorboat
Bonner*	7	North Carolina	Hunting ducks from motorboat
Brown*, Maurek*	2	North Dakota	Killing ducks in excess of daily bag limit
Charlton	2	West Virginia	Killing ducks from motorboat
Creighton*, Walker*	1	Dist. Columbia	Shooting at ducks in close season
Ehlers*, Williams**	3	Indiana	Possessing ducks in close season
Harrell*	3	Florida	Selling ducks and coots
Heller*	2	Missouri	Killing doves in close season
Hilliard and Smith	2	North Carolina	Killing geese at night
Hilliard and Pacetti	2	Florida	Killing ducks in close season
"	1	"	Selling ducks
Hilliard, Pacetti, and Bass*	4	"	Killing ducks in close season
Hoffman	2	Alabama	Selling coots
"	4	"	Hunting doves in close season
Holmes and Shaver	1	Illinois	Hunting ducks in close season
Holmes and Kelsey	2	Missouri	Killing ducks in close season
Kelsey and Sanders**	2	South Dakota	Hunting ducks after sunset
Mestel*	1	Illinois	Killing a wood duck
Mushbach and Jones**	1	South Carolina	Serving and selling ducks to guests
Pacetti	4	Florida	Killing terns and gulls
"	1	"	Possessing ducks in storage in close season

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Riddick and Speckles*	2	Texas	Selling ducks
Riddick	1	"	Selling ducks and geese
"	1	"	Selling ducks to guests
Riddick and Lewis**	1	"	Selling ducks to guests
Riddick, Shaw**, and Lucas**	1	"	Possessing a live gull
Roahen, Fisher**	2	Illinois	Possessing ducks in storage in close season
Roahen, Scholler*	5	"	Possessing ducks in storage in close season
Roahen	5	"	Hunting ducks after sunset
"	2	"	Possessing ducks in storage in close season
Shaver	3	Minnesota	Hunting ducks after sunset
Shaver and Davidson**	3	"	Hunting ducks after sunset
Shaver and Kelsey	3	Missouri	Hunting ducks in close season
"	2	"	Killing ducks in close season
Smith	1	Georgia	Killing a duck in close season
"	1	"	Killing a ruby crowned kinglet
Smith, Mushbach, and Whitehead	1	"	Killing ducks in close season
"	1	"	Killing doves and jacksnipe in close season
Steele, O. D.	6	Iowa	Possessing ducks in storage in close season
Stewart*	1	Delaware	Hunting ducks after sunset
Whitehead	1	Georgia	Possessing doves in storage in close season
"	1	Florida	Possessing doves in storage in close season
"	1	"	Possessing ducks in storage in close season
"	2	"	Selling ducks
Whitehead, Mushbach, and Smith	1	Georgia	Possessing ducks in close season

U. S. Deputy Game Warden
Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

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No. 5

GENERAL NOTES

Representatives of the Bureau called on Doctor Nelson on the afternoon of May 3 at the country place near Washington where he is convalescing and had lunch with him, the occasion being his birthday. A pleasant hour was enjoyed and all were glad to note the improvement in the Chief's condition. It is hoped that he will be able to return to his office before long.

Mr. Goldman, in charge of Biological Investigations, was in Harrisburg, Pa., May 18-20, conferring with the executive secretary of the Pennsylvania Board of Game Commissioners on the operation of the system of State game refuges, their size, occurrence of game on them and its spread to neighboring areas, the general effect of the larger game on forage production, and other matters as they affect similarly the handling of the game refuges administered by the Bureau. Mr. Goldman also represented the Biological Survey at the National Conference on State Parks at Skyland, Va., May 25-28.

The following publication of the Bureau was issued in May:

"Alaska Game Law and Regulations and Federal Laws Relating to Game in the Territory." Service and Regulatory Announcement No. 1, of the Alaska Game Commission. Issued May 12, 1925.

Manuscripts have been submitted for outside publication as follows:

Hall, E. R. "Notes on Water Birds Found Nesting at Pyramid Lake, Nevada."
Lincoln, Frederick C. "Mystery Bands" and "Some Results of Bird Banding in Europe."

McAtee, W. L. "Birds as Enemies of Rice," "Birds Destroying Corn-borers in Winter," "Bird Introductions in Hawaii," and "A Good Word for the Starling."

Malloch, J. R. "Descriptions of Acalyptate Flies in the United States National Museum."

Preble, E. A. "A Hemlock Spray."

Schoffer, Theo. H. "Nests of the California Gray Squirrel."

Wetmore, Alexander. "Observations on the Birds of Argentina, Paraguay, Uruguay, and Chile." Prepared while in Biological Survey.

Miss Blanche M. Yates resigned as editorial clerk, effective May 12, after seven years' service with the Bureau. She will make her home in Los Angeles, Calif.

BIOLOGICAL INVESTIGATIONS

A. H. Howell is conducting field work in northeastern Florida. The location of breeding stations of some of the rarer birds of the State has been the object of several trips into the wilder swamps and marshes of the region.

Dr. W. P. Taylor spent the early part of April making observations on the Santa Rita Range Reserve, and most of the latter half of the month at the Southwestern Forest Experiment Station, at Fort Valley, near Flagstaff, studying the habits of porcupines.

Theo. H. Scheffer was engaged in studies of the life habits and distribution of various mammals during the early part of April, and during the latter part of the month in studies of the seasonal activities of ground squirrels in the lower Yakima Valley and in the region east of the Columbia River. Gray Squirrels were noted as having ceased damaging the fir trees in parks and prairie groves, as is usual at this season.

ECONOMIC INVESTIGATIONS

At Sweethome, in the Santiam National Forest, Oregon, the State veterinarian was called during the month to investigate a supposed outbreak of rabies. He found that a number of dogs and house cats had died of the disease or were suffering with it, but no cases of rabies in wild animals have been reported.

Hunter Alva Stone took 10 adult coyotes and 81 pups in Umatilla County, Oregon, during April. This was not only the largest kill for the month, but in every den the female was taken. In one den, however, there were 18 pups and as only one female was taken it is possible that there may have been another, which escaped. The pups were of the same size and, as the hunter expressed it, "You couldn't tell where one family started and the other left off."

Mary M. Smith, wife of Hunter Joe Smith, of Texas, who has been working on the trap line with her husband for several years setting trap for trap with him, on April 27 trapped a female lion for which they had both been working. The lion had killed a total of 29 sheep in the 8 days beginning April 11. Mrs. Smith is reported to be the first woman in Texas to catch an adult mountain lion in a steel trap.

Because of heavy losses from coyotes in sheep, pigs, and turkeys on farms in the country north of the Crow Creek Reservation in Hughes and Hyde Counties, South Dakota, Hunter M. M. Karlen was sent there early in the month by Stanley G. Jewett, leader in predatory animal control, to clean up the few coyotes remaining. He found only two animals and reports that since clearing the reservation there is little danger of a recurrence of heavy stock and poultry loss in that locality.

The work of Hunter Ed. Lang in northwestern Hughes and western Sully County is important to the Crow Creek Indian Reservation also, inasmuch as it is clearing a region along the Missouri River that is badly infested with coyotes.

Oscar Letizke reports shooting a notorious sheep-killing coyote on a ranch near Strool, S. Dak., that weighed 60 pounds. Archie Howes, also a hunter, took a female coyote at a hog ranch near Buffalo Gap, known as "Bohtail," which is reported by the rancher to have been about his place for more than three years and to have a record of killing more than 150 pigs.

Of the 97 individual cooperators in predatory-animal control in Montana who signed agreements last winter, 90 have reported to R. E. Bateman, leader in this work for the State. This cooperation is practically over for this season and many stockmen have expressed their desire to enter into another agreement next fall by employing hunters to distribute poison under the supervision of the Bureau.

Plans have been made for cooperative work in Colorado on eight national forests, under the supervision of J. W. Crook and G. M. Trickel, senior administrative assistants. Some hunters are now on these forests, and more will be added as the season advances. Hunters sent to these forests with the advent of the grazing season will accomplish much good by the systematic manner of work planned, states Stanley P. Young, leader in predatory-animal control in the Colorado-Kansas district. They will be expected to put forth every endeavor to accomplish the most satisfactory results, to show our appreciation of the splendid cooperation of the sheepmen on these forests, who are raising a considerable fund by direct assessment of so much per head on their flocks.

A Mohave County stockman reported to B. E. Foster, junior biologist in Arizona, that the extermination of prairie dogs on 60 acres of alfalfa field last year had been worth over a thousand dollars to him. Mr. Miller stated that if the prairie dogs had not been killed he would have had to haul his hay from a ranch 40 miles away.

Rodent-control campaigns in Arizona during April were directed against prairie dogs, pocket gophers, and rabbits. About 12,000 rodents a day were killed, or approximately 360,000 for the month. A total of 79,769 acres of infested lands were treated with 7,956 quarts of poisoned bait by 379 cooperative farmers and stockmen.

The Kansas Agricultural College distributed to cooperators in rodent-control work during March, enough material to poison 351,000 prairie dogs and pocket gophers.

Louis Knowles, leader in predatory animal control in South Dakota, reports finding a "rabbit disease" in Butte and Harding Counties. Jack rabbits had become so numerous they were a serious menace to small crops and alfalfa. Apparently the plague was at its peak during April, as hundreds of dead rabbits were visible along even the main roads.

H. R. Wells, leader in rodent control in South Dakota, spent several days in April directing a campaign against ground squirrels in Codington County. This county spent \$12,000 in bounties last year, approximately \$10,000 of it on flickertails. By use of poisoned bait it is

expected to kill many times the number of squirrels at a cost to the county not exceeding \$350. A week was set aside as "Ground Squirrel Week" and in addition to items appearing in the local papers, large display advertisements were run urging general cooperation. Additional press publicity and meetings will urge follow-up work throughout the summer. Each county commissioner has made himself responsible for his own district, and the whole campaign will be under the supervision of the county agent. This is our largest attempt at flickertail control in South Dakota and should it prove as successful as we hope, other counties will be likely to follow Codrington next year.

Mr. Wells spent four days in April in Minnehaha County organizing the Benton Township pocket-gopher campaign. Seven demonstrations and meetings were held and considerable newspaper publicity given the project. All farmers in the township were sent circular letters twice, explaining the work and urging cooperation. Bait supplies and traps were placed at convenient points where they could be obtained at cost. This is our first attempt at an organized pocket-gopher campaign in the eastern section of the State, and the response obtained at the meetings and demonstrations fell considerably below what was expected. Only one hundred farmers availed themselves of the demonstrations.

Another serious break in the Sunnyside Canal in Washington during April has been laid to the door of the pocket gopher. The break, which was 45 feet wide, together with flooded lands below the ditch caused a big loss in time and money. These breaks usually occur soon after turning a full head of water into the canals. The canals being dry in winter, the pocket gophers work from both sides of the fill.

FOOD HABITS RESEARCH

E. R. Kalmbach has been working for a few weeks on the control of damage by blackbirds to rice in Louisiana, with headquarters at Gueydan. The project is cooperative, the rice growers having provided funds to cover expenses and the Biological Survey contributing Mr. Kalmbach's services and equipment.

FUR RESOURCES

Mr. Henderson and Mr. Ashbrook visited the Experimental Fur Farm at Saratoga Springs the first part of the month to confer with Dr. K. B. Hanson and complete plans for the construction of a property fence, storage shed, and additional fox-breeding pens. During their visit two litters of fox pups were born - five in one and six in the other. These make a total of 23 fox pups born at the Farm this season.

On May 2, Mr. Ashbrook visited a rabbit farm at New City, N. Y., where approximately 3,500 rabbits of a dozen or more breeds are being raised. No rabbits or pelts have been sold from this farm as yet, the object being to increase the stock to a point where the owners will be able to pelt thousands annually.

The German Fur Commission, which came to the United States to study the methods of handling the fur business in this country, was addressed by Mr. Ashbrook in New York City on May 13 on this phase of the work of the Department. The Commission was particularly interested in the Department's cooperative work with the National Association of the Fur Industry. Charts and maps designed by Horace J. McMullen were exhibited to demonstrate graphically the statistical data being compiled in this cooperative undertaking.

Mr. Ashbrook has been awarded the \$100 first prize in a Fur Dye-Gest letter-writing contest, which was open to all interested in the fur trade of America. The letters were to set forth what is most needed for the improvement of the fur industry.

GAME AND BIRD RESERVATIONS

Nine buffalo calves have been reported born this spring at Niobrara Reservation, Nebr., one at Wind Cave Preserve, S. Dak., and two (one of which died) at the Montana National Bison Range.

Practically all the elk have left the Winter Elk Refuge in Wyoming and ranches adjoining and have gone back to the foothills. They were slow to leave this spring, and on May 1, about 1,000 were still grazing there.

Cold weather for this season of the year has been reported at Wind Cave Game Preserve. During the week of May 3 there was ice 2 inches thick and some snow fell.

More ducks than usual have come this spring to Sweetwater Lake, within Sullys Hill Game Preserve, North Dakota. Mallards are nesting in the bushes on the lake shore, and golden-eyes in boxes put up by the warden. One pair of geese are nesting for the second time on a small platform out on the lake. Their first setting was placed under a tame goose and will soon be hatched. Five wood ducks and several mallards are in a pen which has a large water area on the lake shore.

IMPORTATIONS

The season for importing quail from Mexico closed on April 30 and the total number of birds brought in was 39,170, an increase of 10,782 over 1924. All were entered at Brownsville and Laredo, Texas, the number at the former port being 36,390 and at the latter 2,780.

There has been a marked increase in the importation of eggs of game birds during the past three or four weeks, and permits for the entry of 1,216 eggs have been issued. Most of these shipments were from Canada, one from England, and one from Norway.

Importations at the port of San Francisco, which fell off considerably after the passage of the Tariff Act of 1922, have again been resumed. During the past few weeks six large shipments of birds and mammals have been brought in at that port from Australia, China, Japan, and the Philippines.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Warden Farnham, assisted by former Warden Stadlmeir, spent approximately two weeks in New York City recently, obtaining evidence showing a substantial traffic in beaver skins. The investigation was undertaken primarily in cooperation with the State Fish and Game Department of Minnesota, which has been troubled considerably with illegal shipments from that State; however, the investigation disclosed that the beaver skins were being shipped into New York from the States of Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, North Dakota, Minnesota, New Jersey, Massachusetts, and Maine. The information obtained has been forwarded to the United States game wardens and State game wardens of the respective States for the purpose of determining the legality of the shipments. While unquestionably some were legal, many probably will be found to have been in violation of State game laws. Wardens Barmeier and Mushbach also have uncovered considerable information relative to illegal shipments of beaver skins from Montana.

Warden Charlton writes that hunters on the Ohio River from Point Pleasant, W. Va., to Lawrenceburg, Ind., report the best hunting in that section last fall for the past ten years. Some of them estimate an increase in waterfowl during the past five years of close to 100 per cent.

While Warden Roahen was driving in his automobile through the Illinois River section between Havana and Peoria, Ill., a short time ago, a rifle bullet fired by an unknown person pierced one of the rear tires of his car. He spent some time investigating in the near-by woods, but was unable to find out by whom the shot was fired. Whether it was another attempt on his life or a stray bullet is only conjecture. It will be recalled that Warden Roahen in company with Warden Charlton, of Columbus, Ohio, while patrolling in practically the same section on March 3 was shot from ambush by an outpost for a party of market hunters. Both wardens were seriously injured, and it was only recently that they were able to resume active duty.

Hon. E. Lee Le Compte, State Game Warden of Maryland, was a visitor in the Division on May 14.

Cases Terminated - Reports Received During April.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Killing a duck in close season	\$10
"	1	"	Killing a duck in close season	\$25
Barmeier, Creech*	1	"	Selling ducks	\$25
Barmeier, Wildberger**	1	"	Possessing ducks in close season	\$25
Birsch, Bonner*	1	No. Carolina	Selling ducks	\$50
Bonner	3	"	Killing coots from motorboat	\$25 each
"	1	"	Killing ducks after sunset	\$25
"	2	"	Killing coots from motorboat	\$10 each
Dickerson*	2	Tennessee	Shooting ducks from motorboat	Costs of \$20.12 each
Hampe*	1	Texas	Killing a dove in close season	\$1
Hoffman	2	Alabama	Selling coots	\$25 each
Hoffman, Bacon**	2	"	Killing doves in close season	\$10 each
Holmes, Varley**	3	Nebraska	Hunting ducks in close season	\$10 each
Kelsey	8	So. Dakota	Hunting ducks after sunset	\$25 each
Kelsey, Shaver,	3	Illinois	Hunting ducks in close season	\$25 each and costs
Steel, Scholler*				
Landes***	1	Illinois	Possessing wood ducks	\$25 and cost of \$11.80
Riddick	1	Texas	Killing a dove after sunset	\$5
Riddick, Maxon*	1	"	Killing doves in close season	\$10
Roehen, Fisher**	2	Illinois	Possessing ducks in storage in close season	\$25 each and costs
Roehen, Scholler*	2	"	Possessing ducks in storage in close season	\$25 each and costs
"	1	"	Possessing ducks in storage in close season	\$25
"	1	"	Possessing ducks in storage in close season	\$150 and costs
Scholler*	1	"	Possessing a flicker	\$25 and cost
"	2	"	Possessing insectivorous birds	\$25 each and costs
Shaver,	1	Minnesota	Killing ducks after sunset	\$10
Shaver, Purdum**	1	"	Shooting at ducks after sunset	\$10

* U. S. Deputy Game Warden

! Deputy State Game Warden

** Former U. S. Deputy Game Warden

Cases Reported for Prosecution.

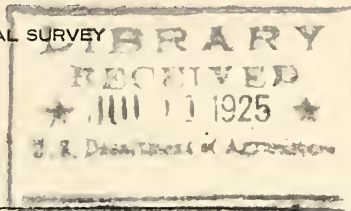
<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Bloxsom, Sinclair**	2	Maryland	Shooting at swans
Hoffman, Obscur*	6	Louisiana	Selling ducks
Hoffman	1	Alabama	Hunting doves in close season
Mushbach, Jones*	3	No.Carolina	Selling brant and ducks
" "	1	"	Selling geese and shipping geese in excess of weekly limit
Obscur*, Brady*	1	Louisiana	Selling ducks
Pittman*	1	Kentucky	Hunting ducks in close season
Riddick	1	Arkansas	Possessing ducks in close season
Roahen, Barmeier	2	Illinois	Killing ducks in close season
Roahen, Scholler*	1	"	Possessing ducks in storage in close season
Shaver, Kelsey	1	Iowa	Possessing a duck in close season
Shaver, Punshon**	3	Missouri	Hunting ducks in close season
Shaver, Punshon*, Ott*	2	"	Hunting ducks in close season
Shaver, Totten**	2	Minnesota	Hunting ducks after sunset
Shaver, Fidler*	1	Illinois	Killing ducks in close season
Shaver	1	Minnesota	Possessing ducks in storage in close season
Smith, Cushman*	1	Maine	Possessing scoters in storage in close season
Steele, Cooney*	1	Iowa	Possessing ducks in storage in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 6.

Washington, D.C., June 29, 1925

No. 6.

GENERAL NOTES

We are glad to note that Doctor Nelson has now recovered from his recent severe illness and to have him with us again. He returned to the city on June 24, after a few weeks recuperating his strength at a country place near Washington.

At the request of the Louisiana Conservation Commission the Bureau has recommended Mr. and Mrs. Arthur Svihla to undertake a comprehensive investigation of the muskrat in the Mississippi Delta region, as a basis for developing this valuable resource. Vernon Bailey, of Biological Investigations, accompanied Mr. and Mrs. Svihla to southern Louisiana in June to inaugurate the work. The food and breeding habits of the muskrats in the Delta marshes will be studied in the fullest detail as well as all other phases bearing on the highest development of the muskrat industry in Louisiana.

Dr. Miklos Siegescu, a representative of the Hungarian Department of Agriculture, sent to the U. S. Department of Agriculture by the Royal Hungarian Legation, to study the practices under the Department, was a visitor in offices of the Biological Survey on June 11.

Dr. T. S. Palmer spoke before the Committee on States Relations of the National Research Council at the National Academy of Science Building on June 11 on "The Study of State Achievement in Research."

Paul H. Oehser, of New York, was appointed editorial clerk, effective June 15, to fill the vacancy caused by the resignation of Miss Blanche M. Yates on May 11. Mr. Oehser was graduated from Greenville College, Greenville, Ill., with the degree bachelor of arts, on June 3.

Miss Johana Madigan, an employee of the Biological Survey since January 1, 1915, died on June 3. During her service with the Bureau she had earned the confidence and respect of all its members, and the sincere sorrow of her many friends is tendered to the surviving relatives.

Manuscripts have been submitted for outside publications as follows:

- Couch, Leo L. "Killing Rats with Calcium Cyanide," and "Rodent Damage to Young Forests."
- Kellogg, Remington. "A Study of the Skull of a Fossil Sperm-whale from the Temblor Miocene of Southern California."
- McAtee, W. L. "Key to the American Leaf-hoppers of the Genus Typhlocyba (Homoptera: Jassidae)."

McAtee, W. L., and J. R. Malloch. "Another Annectant Genus (Hemiptera: Cimicoidea)."
Oberholser, Harry C. "April and May Birds of Washington, D. C.," and "The Migration of North American Birds: Hummingbirds."
Silver, James. "The National Aspect of Rat Control."
Zimmerman, R. Scott. "Poisoning the Pests (Flickertails in North Dakota)."

BIOLOGICAL INVESTIGATIONS

Theo. H. Scheffer made special studies of the nests of the silver-gray squirrel in Washington State during the early part of May, and has prepared a report on this subject. His work later in the month concerned chiefly the investigation of damage by pocket gophers of orchard trees, and studies of the various ground squirrels in the semidesert region east of the Cascades.

A. H. Howell in the course of natural history work in northern and central Florida, recently visited several collecting stations of naturalists identified with early work. Comparison with the records of these earlier explorers shows that many changes in the prevailing character of the fauna have taken place.

C. H. M. Barrett, while on a trip to Florida, during which he combined business with a vacation, made a collection of birds especially desired by the Biological Survey in the Everglades region south of Lake Okeechobee.

F. C. Lincoln left Washington on June 16 for St. James, Mich., for the purpose of banding adults and young in colonies of gulls and terns.

Miss Ethel M. Johnson, stenographer in Biological Investigations, was graduated with distinction from Columbian College of George Washington University on June 3, taking the degree bachelor of arts.

ALASKAN INVESTIGATIONS

In an effort to deal cooperatively with border game violators, arrangements have been made between the British Columbia Police and Ernest P. Walker, the Bureau's representative in Alaska, for joint patrols. As a result a member of the Provincial Police arrived in Juneau May 10 and joined Wardens Goddard and Steavens at the mouth of the Taku River. A joint patrol on the lower Taku on both the Alaskan and Canadian sides produced evidence of extensive violations. A Canadian subject was arrested and tried for illegal trapping and a warrant is now outstanding for another person for trial before the Alaska courts. As another result of this joint patrol a Canadian native was brought before the U.S. Commissioner at Juneau where he plead guilty to illegal voting and fishing on the American side. A Canadian native was also

found who formerly held a Canadian guide license and who has forfeited his right to it by residence on the American side at the same time that he was using the Canadian license on the Canadian side. On another trip Warden Goddard found a violator who had recently killed six beavers illegally, and took him to Ketchikan. The defendant plead guilty, was fined \$200, and sentenced to 10 days in jail. Violators on both sides are learning that they will no longer be able to operate thus with impunity.

Prior to the meeting of the Alaska Game Commission, held April 9-14, Representative Greir of the Third Division of the Territorial Legislature had introduced a bill carrying an appropriation of \$5,000 for the purpose of stocking Kenai Peninsula and islands in Prince William Sound with elk. Upon the return of E.P. Walker to Juneau, Mr. Greir called at the Biological Survey office and discussed the subject of stockings, and as a result withdrew his original bill and substituted for it another which carried provision for an appropriation of \$10,000 and the adoption of a comprehensive program of stocking lands of Alaska with valuable game and fur-bearing animals, closely following the plan which had the approval of the Alaska Game Commission.

On April 18 the House resolved itself into a committee of the whole to consider the bill and invited Mr. Walker to appear before it and explain the desirability of such stocking. Various questions were raised and after satisfactory explanations were made the committee unanimously reported the bill back to the House with the recommendation that it pass.

It was made clear that the \$10,000 appropriation would by no means complete the stocking, but that the adoption of a definite program would undoubtedly stimulate interest in the work and show that it was meritorious. The bill was eventually approved by the Legislature and the work placed in the hands of the Alaska Game Commission. The Act carried an emergency clause which made the money immediately available. The Commission expects to undertake the work provided for under the law at an early date.

Warden Goddard returned to Juneau May 5 from a trip to the Kodiak region, where he released 14 deer captured and transported under funds appropriated by the 1923 session of the Legislature. The Kodiak people were very much interested in the work and were highly pleased when the deer were liberated in their region.

L. J. Palmer, assistant in charge of the reindeer investigations in Alaska, in a radio message dated at Ruby June 13, states that he expected to start down the Yukon River June 15 with the young caribou bulls. The animals were to be loaded on barges and conveyed down the river by one of the Alaska Railroad Company's steamers to Holy Cross, where they were to be transferred to the Bureau's schooner "Hazel" and carried to Nunivah Island. The animals are to be used in a breeding experiment to improve the strain of the reindeer on the island.

ECONOMIC INVESTIGATIONS

Dr. W. B. Bell has returned to headquarters after three months spent in visiting all States west of the Mississippi River in which cooperative work in rodent and predatory animal control is in progress. Conferences were held with field representatives and the results accomplished and plans for future efforts were discussed with directors of extension, commissioners of agriculture, State game departments, farmers, and stockmen. He was also on the program of the annual meeting of the New Mexico Cattle and Horse Growers' Association at Santa Fe. Doctor Bell reports that good progress is being made in the control operations throughout the West.

Carlyle Carr, leader of rodent control in Indiana and Illinois, has resigned effective May 30, to accept employment with a commercial firm engaged in the manufacture and sale of products for the destruction of insect and rodent pests.

The commissioners of Saguache, Rio Grande, Alamosa, and Conejos Counties, Colo., at their May meeting adopted a resolution to cooperate with the State Board of Livestock Inspection Commissioners and the Biological Survey in the control of predatory animals in the San Luis Valley, and set aside \$500 to be used in each of the counties on or after November 1, 1925.

Several coyote dens were destroyed in May close to lambing herds in the San Luis Valley. The coyotes of one den had killed 21 lambs in four nights. Assistant Predatory Animal Inspector John W. Crook assisted by Hunter Finley is responsible for eradicating a den of 10 pups, the largest taken in Colorado during May. Stanley P. Young, predatory animal inspector, writes that "judging from their photos, 10 days would have seen these pups started on a wild and wicked career."

Andy Campbell, a Missouri hunter, killed a pair of wolves said to have destroyed no less than 32 sheep and three dogs in the past two months, and also to have badly slashed to more dogs. In two days spent in the vicinity of this catch he and Inspector W. A. Mullins found three hogs killed by the wolves, one weighing about 200 pounds; and the others 40 or 50 pounds.

A rancher of New Baden, Tex., reports a loss of 500 out of 673 goats through the depredations of red wolves.

Hunter W. C. Snyder heard of six rabid coyotes in Malheur County, Oreg., during the past month, but no losses among livestock have been reported. The recent rabies outbreak in the State of Washington, however, is affecting both wild and domestic animals and may become serious.

D. A. Gilchrist, leader of rodent control in Arizona, gave an illustrated lecture at the regular meeting of the Timakacena Society of Tempe State Teachers' College on May 18, on the subject "Controlling Rodent Pests in Arizona."

Under Mr. Gilchrist's direction and in cooperation with the Forest Service a crew of eight men with horses have poisoned prairie dogs in an area of 39,000 acres in the Coconino National Forest. It is estimated that more than 542,850 rodents were exterminated during the month in 12 counties of Arizona.

During an outbreak of grasshoppers in Big Valley, Calif., in May representatives of the State Department of Agriculture, the county horticultural commission, and Joseph Keyes, leader in rodent control, cooperated in distributing poison in an effort to prevent the insects from becoming a menace such as they were a few years ago in the Tule Lake country. In one or two places, Mr. Keyes says, it was possible to flood the fields and drive the grasshoppers to small high spots, where they were easily poisoned. Along a road which they were crossing in large numbers but in a narrow strip about 250 to 300 feet wide, a solid line of poisoned bran was placed and the next day great masses of grasshoppers were found dead close by their line of migration.

A. E. Oman, leader of the Kansas district, reports that the Union Pacific Railway System is poisoning pocket gophers on its right-of-way in Kansas. Eradication methods were demonstrated to each of the section-crew foremen between Manhattan and Topeka, and they were supplied with a quantity of poisoned wheat. The work will be extended west to Salina and east to Kansas City.

A. W. Moore, junior biologist with the Oregon district, has been interesting the Southern Pacific Railway Company in modern methods of pocket-gopher control in the Willamette Valley. The rodents have been doing damage to the railroad right-of-way, and one section foreman said that it was necessary to spend more than \$1,000 a year on his section 7 miles long. Arrangements are being made to train the section foremen of the railroad company in using clover and strychnine poison.

Dawes County, S. Dak., has employed a county agricultural agent, and there are good prospects for cooperation in our rodent project, writes H. R. Wells, leader in rodent control. In cooperation with the Forest Service 60 acres of prairie-dog country were poisoned in the Harney National Forest. In cooperation with Lyman County 1,000 acres of public lands were treated with prairie-dog bait. Cooperating with private individuals, 160 acres were treated for prairie dogs near Bridgeport, Nebr.

Work was carried on in May in ten counties of North Dakota for the control of ground squirrels. G. C. Oderkirk, junior biologist in the North Dakota district, supervised the treating of 2,400 quarts of bait in Logan County. The work in connection with the campaign in this county was arranged through correspondence with bankers and business men, the only expense to the Department being for labor for treating bait and for some organization work.

A. M. Day, leader in rodent control in Wyoming, submits the following as a prize letter from a rancher in Daniel: "Would like to secure strychnine and saccharin from you. I got 5 ounces last summer from your office and have used it all this spring. I believe we have killed not less than 3,000 squirrels with it."

Best wishes are extended to Morris A. Stewart and his bride, formerly Miss Dorothy Stowell, who were married at Chevy Chase, Md., on June 10. Mr. and Mrs. Stewart will reside at Ithaca, N. Y., where Mr. Stewart is now stationed.

FOOD HABITS RESEARCH

Francis M. Uhler, who has begun an investigation of the economic status of cormorants in Minnesota and North Dakota, is now at Lake Minnetonka, Minn.

FUR RESOURCES

The new lists of fox breeders and breeders of fur animals, compiled from questionnaires sent out by the Bureau this year, are now available for free distribution.

On May 27, Mr. Ashbrook and Horace J. McFullen attended an informal conference at the offices of the U. S. Tariff Commission, at which the secretary of the American National Fox Association was present. The tariff on silver-fox pelts was the chief matter under discussion.

At a meeting of the New York State Fox Breeders' Association, held at Watertown, N. Y., on May 29, Dr. Karl B. Hanson, of the Experimental Fur Farm, spoke on "Ascarids in Foxes and Their Treatment." A paper by Mr. Ashbrook on "A Brief History of Record Associations, Demonstrating the Value of Pedigree Registration for Silver Foxes" was read by the president of the association.

At the request of a silver-black fox company, of Fostoria, Ohio, Doctor Hanson visited their ranch on June 5 to investigate an outbreak of disease among the foxes.

Mr. Ashbrook attended a meeting at Ottawa, Canada, on June 17 of officials of the Canadian National Silver Fox Breeders' Association and of the American National Fox Breeders' Association. Before returning to Washington he visited the Experimental Fur Farm at Saratoga Springs, N. Y., and also attended a meeting of the American Fox Breeders' Association at Marlboro, Mass., on June 25.

At the request of the Danish minister made through the Department of State, authorization has been given for publishing translations of Department Bulletin No. 1151, "Silver-Fox Farming," in the Danish and Icelandic languages.

GAME AND BIRD RESERVATIONS

Wesley D. Parker, warden of Sullys Hill Game Preserve, North Dakota, states that there are at least 50 young mallards and two bunches of young goldeneye ducks with their mother on Sweetwater Lake within the preserve; and one pair of hooded mergansers has been staying with the other wild fowl on the lake. Twenty-eight young pheasants have been hatched. Hawks are not so numerous there this year.

George M. Benson, warden of Lake Malheur Bird Reservation, Oregon, reports more avocets on that refuge this year than he has seen since he became warden in 1918. On one small portion of the refuge he saw at one time recently about 1,500 avocets, 200 Forster terns, and approximately 60 black-necked stilts. A few ruddy ducks have been seen, other ducks are there in considerable numbers, and coots are found all over the refuge. Pelicans are not plentiful there this year.

Ludwig Bethel, warden of Tortugas Keys Bird Reservation, Florida, reports that part of the key within the refuge on which the warden's quarters are located has been washed away, destroying the last one of the old coconut palms on the island, as well as a number of young plants.

Dry weather is reported in the locality of Big Lake Bird Reservation, Arkansas. L. L. Bryan, the warden, writes that he has seen two fine broods of wood ducks there recently.

On a trip of inspection to Walker Lake Bird Reservation, Arkansas, which is also under his supervision, Mr. Bryan saw a few blue herons but was informed that other birds which formerly frequented this refuge had gone to Long Lake about 12 miles south. The drainage ditch at this point has resulted in an absence of water and the consequent departure of the birds.

By unfortunate typographical errors in THE SURVEY recently, the word "resting" was made to read "nesting" in connection with swans at Lake Malheur Bird Reservation, Oregon, and the word "Ross" was made to read "rose" in connection with geese at the same reservation. The words were correctly reported by the Warden.

Charles M. Conger, warden of the Concomully Bird Reservation, Washington, states that sandpipers and killdeer are numerous there but that ducks are scarcer than last year. Some land game birds are on the refuge and the nongame birds are more numerous than in past years.

Wesley D. Parker, warden of Sullys Hill Game Preserve, went to Chase Lake and Stump Lake Bird Reservations, North Dakota, in May and, with the assistance of William Jenkin and H. Schindele, former part-time wardens, posted the refuges with new signs. At Chase Lake many ducks were seen feeding. At Stump Lake, on account of the receding of the waters, a new island has appeared within the refuge about half an acre in extent on which there were about 300 gulls' nests. One large flock of brant was seen on one of the islands of this reservation.

A buffalo bull has been shipped recently from Wind Cave Game Preserve, South Dakota, to a purchaser at Jeanerette, La., and a two-year old buffalo cow was shipped last month from the Bison Range to a purchaser at Beverly, Mass.

Almer P. Nelson, warden of the Elk Refuge, reports that because of favorable rains there is more forage on the pasture lands and surrounding foothills than for several years. The elk have all left the valley for the mountains.

The Izaak Walton League of America has purchased several ranches in Jackson Valley, amounting to 1,760 acres in all, to be used as an extension of the Elk Refuge for furnishing additional winter feed for the elk.

C. F. Gleason and W. R. Jones, employees of the Reclamation Service, have been appointed wardens at Minidoka Reservation, Idaho, and North Platte Reservation, Nebraska, respectively, to cooperate in protecting the wild life there.

John F. Casey has been appointed reservation warden and U. S. deputy game warden at the Blackbeard Island Bird Reservation, Georgia.

Warden Fred Dille reports several elk calves born at the Niobrara Reservation, Nebraska, and Warden A. P. Chambers, an antelope fawn on the Wind Cave Preserve, South Dakota.

IMPORTATIONS

On June 5, application was made for a permit to land five mongooses at New York, purchased in India by the captain of the steamer "Jalapa." On receipt of the application, the Bureau wired the collector of customs at New York that the animals should be immediately destroyed or deported, and also notified the steamship company that there is no authority to issue a permit for landing a mongoose for any purpose whatever. W. DeWitt Miller, inspector of the Biological Survey in New York, who was instructed to look into this matter, has reported that the animals were reshipped to India on the "Jalapa," which sailed on June 13.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Mr. Lawyer is spending his vacation in northern New York.

This Division was represented at the Annual Sportsmen's and Tourists' Fair held at Spokane, Wash., June 16-19 by Wardens Ransom, of Spokane, Wash., and Steele, of Portland, Oreg.

Warden Kelsey, of South Dakota, reports that there was a phenomenal flight of sandhill cranes through his district this spring.

Warden E. B. Whitehead, of Thomasville, Ga., in a report of May 23, writes: "In my trips throughout my district in the past six weeks I have seen more wood ducks and mourning doves than ever before in my life. You can ride down any road and there is hardly a time but you can see one or more mourning doves in any distance of 50 yards, and in any swamp or pond you can find a few pairs of wood ducks. A few years ago you would ride for miles without seeing a mourning dove and visit place after place without seeing half the ducks you can now."

Miss Adele M. Bittner, stenographer in this Division, left for Madison, Wis., on May 27, having been transferred to the Forest Products Laboratory in that city.

Mrs. Margaret B. Leonard, clerk in this Division, sailed from New York June 13 on the S. S. "Veendam" for a 40-day tour of England and western Europe.

Cases Terminated - Reports Received During May.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Anderson***	1	Maryland	Selling ducks	\$10
Barmeier, McGee**	1	Missouri	Selling ducks	\$100
Barmeier, Allmeroth***	1	"	Selling ducks	\$100
Maresh**				
" " " "	1	"	Selling ducks	\$50
Bloxson	1	Virginia	Killing a duck in close season	\$20
Bloxson, Stevens**	1	"	Killing curlews	\$25
" "	1	"	Killing curlews	\$100
Kelsey	10	So. Dakota	Hunting ducks after sunset	\$25 each
Linebaugh	1	Kentucky	Hunting ducks in close season	\$25
"	1	Tennessee	Killing doves in close season	\$10
"	1	"	Killing doves in close season	\$25
Oliphant*	6	Virginia	Hunting ducks at night	\$25 each
Roehen, Fisher**	10	Illinois	Possessing ducks in storage in close season	\$15 each and costs \$11.70 each

*U. S. Deputy Game Warden

**Deputy State Game Warden

***Cooperator

Cases Terminated - Reports Received During May. - Continued.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Roahen, Fisher**	1	Illinois	Possessing ducks in storage in close season	\$25 and costs
Roahen, Scholler*	1	"	Possessing ducks in storage in close season	\$150 and costs
" "	1	"	Offering mounted specimens for sale without permit	\$25 and costs
Scholler*	1	"	Killing a robin	\$25 and costs of \$14.45
Shaver	2	Minnesota	Hunting ducks after sunset	\$10 each
Shaver, Purdum**	2	"	Killing ducks after sunset	\$10 each
Toms*, Glidden**	2	California	Hunting ducks after sunset	\$10 each
Visart	1	Arkansas	Purchasing a duck	\$20

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CASES REPORTED FOR PROSECUTION.

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Beloat**, Ehlers*	2	Indiana	Killing ducks in close season
Bloxson, Stevens**	2	Virginia	Killing curlews
Charlton, Bowersox*	1	Kentucky	Killing woodpeckers
Charlton, Roahen	2	Illinois	Killing ducks after sunset
Fleming*, Randall**, Tilton**	3	Indiana	Hunting ducks in close season
" " "	1	"	Killing ducks in close season
" " "	1	"	Killing a jacksnipe in close season
Roahen	4	Illinois	Possessing ducks in storage in close season
Roahen, Fisher**	1	"	Possessing ducks in storage in close season
Roahen, Hahn**	1	"	Shipping ducks in close season and in a package improperly marked
Roahen, Charlton	2	"	Hunting ducks in close season
Roahen, Scholler*	1	"	Possessing a gull
" "		"	Offering to sell mounted specimens without permit
" "	2	"	Possessing ducks in storage in close season
Riddick, Hudler***	3	Texas	Killing ducks after sunset
" "	1	"	Killing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

*** City Marshal

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Scholler*	1	Illinois	Killing a robin
Shaver	1	Minnesota	Possessing ducks in storage in close season
Shaver, Hahn**	2	"	Killing ducks after sunset
Shaver, Moore**	3	"	Possessing ducks in storage in close season
Shaver, Punshon**	1	Missouri	Possessing ducks in storage in close season
Shaver, Rogalla,**	2	Minnesota	Hunting ducks after sunset
Ackerknecht**			
Smith, Foley**	2	Maine	Hunting ducks in close season
Toms*, Glidden**	2	California	Hunting ducks after sunset
Visart	1	Arkansas'	Selling ducks
"	3	"	Purchasing ducks
Walker** Lapham**	1	Indiana	Hunting ducks in close season
Ehlers*			
Yanch*	1	Texas	Killing sandpipers

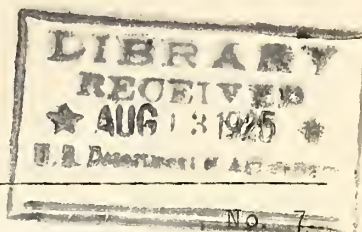
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Vol. 6.

Washington, D.C., July 31, 1925

GENERAL NOTES

Smith Riley, who has been in charge of the Division of Game and Bird Reservations since July 1, 1922, has resigned effective July 31. Mr. Riley came to this Bureau from the Forest Service having served as the first district forester at Denver, Colo., and also in an advisory capacity with the administration of forestry work at Rock Creek Park, Washington, D. C. During Mr. Riley's service in charge of game and bird reservations he showed great enthusiasm for the work and initiated a number of excellent improvements on several of the important reservations. It is unfortunate that he is no longer able to meet the strenuous field activities called for in administering the reservations and for this reason he withdrew from the work. Mr. Riley leaves the Biological Survey with the sincere and friendly good will of the entire personnel.

E.A. Goldman, in charge of Biological Investigations, has been temporarily detailed to act in charge of reservations, thus freeing him from other duties in order that his important studies of large game problems may be continued. He has spent a large part of the past two years in field investigations relating to large game on the reservations in charge of this Bureau and elsewhere on the public domain. The need for this work for some time in the future is urgent and in view of the necessity of utilizing his services in connection with studies of big-game problems, Dr. H.H.T. Jackson, who has been in charge of the mammal collection of the Biological Survey in the U.S. National Museum, has been appointed temporarily as acting in charge of the Division of Biological Investigations. He will be replaced in charge of the mammal collection by A.H. Howell of Biological Investigations.

A general rodent exhibit was displayed in connection with the predatory-animal and migratory-bird work of the Biological Survey at the annual Sportsmen's and Tourists' Fair held at Spokane, Wash., June 16 to 20. The exhibit consisted of veneer panels used as a background on which were tacked rodent specimens; a showcase of specimens; and cages of live California gray squirrels, Columbian ground squirrels, chipmunks, and pocket mice. One large cage contained 13 live brown rats in various stages of development.

Vernon Bailey returned late in July from southern Louisiana, where he has been representing the Bureau in inaugurating a comprehensive study of the muskrats of that region, conducted cooperatively by the Biological Survey, the State Conservation Commission, and the Association of Trappers and Fur Interests of Louisiana. A cordial spirit of helpfulness was shown by the people interested in the muskrat industry, which is becoming one of the most valuable in the State.

Manuscripts have been submitted for outside publications as follows:

- Ashbrook, Frank G. "Introducing Mr. Fiber Zibethicus."
Ashbrook, Frank G., and Horace J. McMullen. "A Preliminary Study of Statistical Data on the Fur Resources and the Fur Trade."
Handley, Charles O. "Undesirable Neighbors and a Tragedy."
Jackson, Hartley H. T. "Two More Pigmy Shrews of the Genus Microsorex," "Preliminary Description of Seven Shrews of the Genus Sorex," "The Care of Museum Specimens of Recent Mammals," "Review of Skinner's 'Bears in the Yellowstone,'" and "Review of Scott's 'The Science of Biology.'"
Jewett, Stanley G. "Notes on Some Unusual Oregon Birds: Ross's Goose - Chen rossi."
McAtee, W. L. "Review of Williamson's 'Sun Brothers,'" and "The Golf Course Beautiful."

BIOLOGICAL INVESTIGATIONS

Mr. Goldman returned to Washington on July 11 from a five-week trip during which he made extended investigations in cooperation with the Forest Service of conditions surrounding the herds of mule deer on the Kaibab Plateau, Arizona, and directed the operations of E. R. Hall, who has been engaged for several weeks in this work. Conferences were also held with Dr. W. P. Taylor concerning the conduct of the special investigations which he has in progress. After the completion of the Kaibab work, Mr. Goldman spent several days in the Ozark National Forest, Arkansas, in cooperation with Forest Service officials, inspecting proposed sites of Federal game refuges, in accordance with recent legislation. A few days after his return to Washington, Mr. Goldman started for Montana on a trip chiefly to inspect the National Bison Range, with special reference to the construction of corrals for capturing surplus elk for shipment elsewhere, for sale, or for disposal otherwise. He will also confer at Jackson with officials of the Forest Service, with residents relative to certain phases of the elk situation, with State officials in charge of game matters, and with representatives of the Biological Survey in Montana, Wyoming, North Dakota, and South Dakota.

A. H. Howell returned to Washington June 27 after completing a survey of breeding ranges of birds of northern and central Florida. While in the State he conferred with the director of the Florida State Museum regarding the birds of the State. He also made a trip to the Gulf Hammock in company with officials of the Florida Audubon Society, to investigate the possibility of setting aside an area in the Hammock as a breeding preserve for birds and game animals.

F. C. Lincoln reports considerable success in banding gulls and terns at several nesting colonies near St. James, Mich., where these birds are numerous.

Theo. H. Scheffer during June made some preliminary investigations looking to a somewhat comprehensive study of the food and life habits of harbor seals and sea lions. Studies, including observations on captive animals, also were made of the Yakima Valley ground squirrels, a species of local economic importance.

Dr. W. P. Taylor and D. M. Gorsuch, field assistant, continued investigations during June of the relations of rodents to agriculture and forestry, principally at the Southwestern Forest Experiment Station near Flagstaff, Ariz.

ALASKA INVESTIGATIONS

The Reindeer Experiment Station which has been maintained at Unalakleet and Nome since 1920 has been moved to Fairbanks, and L. J. Palmer, assistant in charge of reindeer-grazing investigations in Alaska, and W. B. Miller, assistant range examiner, will make their headquarters there after August 1.

Game Warden Jack W. Warwick, formerly stationed at Flat, has been transferred to Eagle, which will be his official station.

In accordance with the new Alaska Game Law, all game wardens in Alaska will be transferred to the rolls of the Alaska Game Commission August 10, at which time, in accordance with the date-effective provision of the Act, 90 days will have elapsed since the date of publication of regulations of the Secretary of Agriculture. All new appointments will be made by the Commission hereafter.

To assist the Alaska Game Commission in the inauguration of its work, the Bureau has supervised the printing of 26 application and license forms for use in Alaska under the new Alaska Game Law. These were shipped to the Commission at Juneau late in July.

ECONOMIC INVESTIGATIONS

Predatory-animal control in Idaho is now conducted cooperatively between the Biological Survey, Forest Service, and grazing associations. Luther J. Goldman is leader in the work. The Sawtooth Association has increased the tax rate half a cent to 2 cents a head for permitted sheep and one horse a band for bait. The rates on the Cache Forest are 5 cents a head on sheep and two horses a band. The Idaho, Payette, Boise, Sawtooth, and Cache National Forest Wool-growers Associations have been organized for the coming season. Mr. Goldman reports the gray wolf nearly extinct in Idaho and few lions left in the vast timbered areas of the northern part of the State. A few bobcats and lynxes still remain but the chief stock destroyer now is the coyote.

William Price, a hunter in South Dakota working cooperatively with the State Game Department in the stock ranges north of Belle Fourche, Butte County, took an old coyote at its den and found about it the skeletons of seven sheep. Stockmen in this locality reported that Mr. Price has put an end to killings in every range that he has been able to reach so far. Losses in this district have been heavy for several years, usually averaging more than a hundred head to the band during May and June.

John N. Martin, a hunter in Corson County, S. Dak., through his trapping and poisoning operations since May, 1924, has nearly exterminated coyotes and bobcats from 840 square miles of the county and has turned in since that time the skins and scalps of 162 predatory animals. This is a district where both these animals were formerly very numerous and destructive to livestock and poultry. Stockmen and farmers estimate that Mr. Martin's operations have meant a saving to them of \$10,000 this season. His work is done in cooperation with the State Game Department.

Stanley G. Jewett, leader in predatory-animal control in Oregon, reports an unusual number of raids in June by bears on the sheep entering national forests in Wallowa and Union Counties in eastern Oregon and in Douglas County in the Cascade Mountains.

W. E. Spaw, a hunter in the Texas district working in cooperation with local stockmen, completed operations in Robertson County when on June 21 he caught a notorious red wolf reported to have killed \$500 worth of turkeys in the past five months.

At a poultry farm near Tenino, Wash., 14 rats were killed with calcium cyanide, although extensive trapping and poisoning had been resorted to during the past two months. The owner of the farm lost 40 baby chicks and 9 old hens by rats. Leo K. Couch, leader in rodent control in Washington, has formulated plans for carrying on an extensive rat campaign next fall and winter. For this purpose cooperation is being lined up with the Extension Service, county agents, the Western Washington Experiment Station, the Washington Cooperative Egg and Poultry Association, and individual poultrymen.

A. E. Oman, leader in rodent control in Kansas, followed the Potato Growers' Tour through Shawnee, Jefferson, and Douglas Counties, the first week in June. The growers are realizing the economic waste of allowing pocket gophers in potato fields, and demonstration plot work done last fall, and demonstration field work carried on this spring in cooperation with the Extension Service of Kansas State Agriculture College have been great helps in gaining recognition of the project in the Kaw Valley.

A crew of 14 men working near Cokeville, Wyo., completed the first treatment of the area infested by ground squirrels on June 18. By this time the entire district has been systematically poisoned, some areas being retreated two and three times. A total of 30,000 acres was actually treated by the crews. This area gave protection to the entire district of some 150,000 acres, since much of it was meadow land which needed little attention. Reports from some

prominent landowners in the district indicate general satisfaction with the work, and an inspection substantiates this feeling, for few squirrels may now be seen where last year there were hundreds. Steam-crushed oats and processed poison, mixed according to the formula developed by S. E. Piper for squirrels in this particular section, are responsible for much of the success of the work this year.

Mr. Morrison left Washington the latter part of June for an extended trip to visit the western field offices.

Galen C. Oderkirk, who has been engaged in rodent control in the North Dakota district for several summer seasons, has been transferred to the Eastern Rodent Control District and assigned to the local leadership in Indiana and Illinois.

FOOD HABITS RESEARCH

Jean M. Linsdale, of the University of Kansas, and Warren N. Keck, of the University of Iowa, have been appointed to carry on a survey of the food resources of wildfowl in Minnesota and are now at work in Wright County.

Charles C. Sperry, after starting the field work in Minnesota, has gone to Louisiana to investigate the effect of the long drought on wild duck foods, and to make some local surveys, especially in cooperation with the Louisiana Department of Conservation. John R. Greely, who was employed in the Food Habits Research laboratory last summer, is accompanying Mr. Sperry to assist him in the work.

Francis M. Uhler also spent a short time with the lake survey party in Minnesota, and has now gone to Devil's Lake, N. Dak., to continue the study of cormorants and other fish-eating birds.

FUR RESOURCES

Mr. Ashbrook and Horace J. McMullen recently visited New York City to confer with officials of the National Association of the Fur Industry and of the Fur Trade Review regarding statistical material which is being assembled on fur resources. Mr. McMullen remained in New York to procure additional information, and returned to the office July 6.

On July 15 the general director of the National Association of the Fur Industry, came to Washington to discuss certain matters concerning cooperative work between the Bureau and the National Association. During his visit here an informal conference was held with officials of the Bureau of Foreign and Domestic Commerce regarding a reclassification of certain exports and imports.

The construction of a shed at the Experimental Fur Farm for storing knock-down pens, dens, nest boxes, lumber, etc., has just been completed. A property fence which incloses 20 acres of land has also been erected there.

Harry L. Bell, a vocational training student of the Veterans' Bureau previously employed at a fox farm in Pennsylvania, has been transferred to the Experimental Fur Farm.

Horace J. McMullen, a representative of the National Association of the Fur Industry, who has been working in cooperation with this Division since January, has resigned to accept a position with a Chicago firm. Our associations with Mr. McMullen have been very pleasant, and we wish to extend him our best wishes for success in his new work.

GAME AND BIRD RESERVATIONS

The irrigation company operating near the Lake Malheur Bird Reservation Oreg., has opened its dams, and late in June more water flowed into the lake than at any time during the spring and early summer. Ranches were flooded as the thick weeds in the lake did not permit the water to flow in as fast as it came down the channel.

A representative of a New York film corporation visited Lake Malheur Reservation in June to make motion pictures of the birds there. This month a representative of a New York news reel company visited Three Arch Rocks Reservation, Oreg., in company with U. S. Game Warden R. C. Steele, to obtain pictures of wild life at that refuge.

The first young birds of the season at Tortugas Keys Reservation, Fla., were seen on June 3.

Fewer wood ducks are reported at Big Lake Reservation, Arkansas, than last year.

Five antelope fawns are reported at Wind Cave Game Preserve, S. Dak., and there are now 17 buffalo calves at this preserve.

Seventy-one buffalo calves, of which 63 are living, were born this season at the National Bison Range, Mont. Ten buffalo calves are reported at the Niobrara Reservation, Nebr. Three buffalo calves and six elk calves have been seen at Sullys Hill Preserve, N. Dak.

More than three miles of telephone line have been constructed from Jackson, Wyo., to the headquarters of the elk refuge, and from there to the cabin at the Germain tract within the refuge.

Under the direction of U. S. Game Warden R. C. Steele, at La Push, Wash., a large sign has been erected warning persons from trespassing on the Quillayute Needles and other refuges along the coast of that part of the State of Washington.

By permission of the warden of the Idaho Department of Fish and Game, a deputy state Game warden has recently completed the posting of Deer Flat Bird Refuge, Idaho, under the jurisdiction of this Bureau. This posting will be of considerable aid in bird protection.

A huge landslide came down the south slope of the high mountain on the Gros Ventre River, Wyo., on the afternoon of June 23, about 12 miles above the Elk Refuge, completely shutting off the river and forming a lake. It is estimated that the slide at the lowest level, where the river will eventually pass through, is 150 feet high and covers the river bottom for a mile, running high onto the opposite side. At the Huff Ranch in Jackson Valley a barn and sheds were swept away, but the house was missed by a few yards. This ranch, where the State had 140 tons of hay for feeding the elk, will be covered by the body of water, and the hay was reported floating in the lake. All the ranchers along the Gros Ventre River below the slide were cut off from irrigation water, but the Elk Refuge was not affected.

IMPORTATIONS

Richard M. Hunt, recently located at Berkeley, Calif., who was one of our special inspectors of foreign birds and mammals at San Francisco, died in Boston, Mass., on June 25, after an illness of several months.

MIGRATORY-BIRD TREATY AND LACEY ACTS

An interesting case was tried in the Federal Court for the southern district of Texas on June 22, when an accused charged with selling and serving a wild duck in his restaurant was ordered on a plea of guilty to pay a fine of \$100.

A prominent citizen of Chicago was arraigned in the Federal court for the northern district of Illinois on July 9 for possessing wild ducks in cold storage during the close season. He entered a plea of guilty and was fined \$150. This is the fourth such case terminated in this district during the past few months where a fine of equal amount has been imposed. Another offender, charged with illegal possession of aigrettes and arraigned in the same court on July 11, entered a plea of guilty, and was fined \$300.

Warden George M. Riddick, of Houston, Tex., in his report of July 4 states that during the preceding week he had seen more mourning doves near Houston than at any time since he went to Texas. Inquiries show that there are more doves there than for years past.

Mrs. Louise G. Bittner was transferred from the Bureau of Soils of this Department on July 1 to fill the position of stenographer in this Division made vacant by the transfer of Miss Adele M. Bittner to the Forest Products Laboratory at Madison, Wis.

Mrs. Mary H. Doyle was appointed typist in this Division effective June 26.

The poster on the open seasons for game, for 1925-26, was issued on June 26. This is an annual publication and every year is given additional publicity by reproduction by photographic process in the pages of several of the outdoor and sporting periodicals of national circulation.

The Division regrets to announce that since the previous issue of THE SURVEY it has received news of the death of two of its most valued U.S. deputy game wardens: Milton C. Peters of Omaha, Nebr., on June 20; and Stuart J. Flintham of Los Angeles, Calif., on June 10.

Part of the charge of Judge Isaac M. Meekins, of the U. S. District Court for the Eastern District of North Carolina, to the grand jury at Elizabeth City at the April, 1925, term is so full of human interest that we are quoting that part relating to birds in its entirety, as follows:

"The legislature of this State has undertaken to protect quail; and it is competent for it to do so. The quail is not migratory in its habits. It lives its life within a short distance of where it was hatched. But migratory birds are of different habits. For instance, the swan migrates from Greenland to the Gulf of Mexico. It crosses in its flights, winter and spring, going and coming, the lines of many states. The swan is the aristocrat of the air. He spends his summers in Greenland, his winters at Palm Beach, travels by flying machine and has a bank account a yard long. The swan is an interstate bird, migratory in its character; and it is competent for Congress to legislate--and it has legislated--for the protection of swans, wild geese, wild ducks, and other migratory game birds because, if for no other reason, they constitute a part of interstate commerce. When the United States Government undertakes their protection and regulation the State withdraws.

"Speaking of swans: He who shoots only for the love of sport could not kill a swan because sportsmen are of generous impulses and tender sensibilities. How one who shoots for loot could kill a swan puzzles interpretation. In the early spring, late in the afternoon of a perfect day on Currituck Sound, I saw a great bank and shoal of snow-white swans rise en-mass out of the water, and begin their graceful flight seaward. More than a mile away and at a height of more than a thousand feet they passed between my vision and the sun. There they were, I can see them now, great wedges of silver, suspended in the deep blue sky, as they paused to change their course into the sunset and after that the dark. Before the canopy of immaculate whiteness; the sweep of the untiring wings; and the pathos of the soul-stirring cry of their leader, immediately chorused by the multitude, I stood thinking of Angels:

"There is another class of useful birds which are denominated nongame birds; and those which are migratory in their character are protected by the United States Government. It is unlawful to kill them at any time, or under any circumstances; and the killing of such birds is indicatable in this Court. The robin, for instance, comes within this latter class of birds. There is a beautiful legend that, not far away the robin sat, guarding the nest of his mate and their young, watching the tragedy of the Crucifixion. The legend has it, that the breast of the robin had until then been mottled and repulsive and that his one longing was to have a breast of beauty and red. The robin, so the legend goes, became charmed by the scene on the Hill and the Cross of Calvary; the mutterings of the mob; the cry of derision and taunt; the thrust of the spear and the crown of thorns; the innocence and suffering! When the tumult had ceased and the mob had dispersed, the robin flew to the Cross and loosened the crown of thorns. When the thorns fell to the ground, a tiny drop of Jesus' blood impinged upon the robin's breast. The robin flew back to the nest and his mate, and she sang: "Look! All over your breast is beautiful and red."

"I brave the hazard of personal reference: when I was scarcely three years old, I remember a blustery winter afternoon when the robins were thick out on the lawn. My mother, observing my interest in the scene, took me by the hand and told me the story of "Why the Robin's Breast is Red," as I have told the story to you. With me, from then until now, the sight of a robin and the memory of the story are one. And, since here death, I never see a robin without seeing my beautiful mother's face.

"I rejoice in the knowledge that this great Republic of ours has thrown its protection around the robin--that beautiful and harmless creature of Him who notes the sparrow's fall.

"There are also birds which are not game birds, and which are not migratory. The States alone protects them, and the Federal Government has no authority over them."

Cases Terminated - Reports Received During June.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Bloxsom, Sinclair**	2	Maryland	Shooting at swans	\$25 each and costs
Holmes, Shaver	1	Illinois	Shooting at ducks in close season	\$15 and costs of \$11.80
Kelsey	1	So. Dakota	Hunting ducks after sunset	\$25
Mestel*	1	Illinois	Killing a wood duck	\$15 and costs of \$11.80
Pacetti, McCarley**	2	Florida	Hunting doves after sunset	\$5 each
" "	2	"	Hunting ducks after sunset	\$5 each
Riddick	1	Texas	Selling and serving a duck	\$100
"	1	"	Selling ducks	\$25
"	1	"	Selling ducks	1 hour custody of marshal
Riddick, Hampe**	1	"	Selling ducks	1 hour custody of marshal
Riddick, Speckles*	1	"	Possessing killdeer	\$10
" "	1	"	Selling ducks	\$25
Roahen, Charlton	1	Illinois	Hunting ducks in close season	\$15 and costs of \$11.80
Roahen, Scholler*	1	"	Possessing ducks in storage in close season	\$25 and costs
" "	2	"	Possessing ducks in storage in close season	\$15 and costs of \$11.80 each
Roahen, Fisher**	2	"	Possessing ducks in storage in close season	\$15 and costs of \$11.80 each
Roahen-Barmeier	2	"	Killing ducks in close season	\$15 and costs of \$11.80 each
Roahen	1	"	Hunting ducks after sunset	\$15 and costs of \$11.80
"	1	"	Killing coots from motorboat	\$15 and costs of \$11.80
"	6	"	Possessing ducks in storage in close season	\$15 and costs of \$11.80 each
Shaver	3	Minnesota	Shooting at a loon and hunting prior to half an hour of sunrise	\$25 each
"	2	"	Hunting ducks after sunset	\$10 each
"	5	"	Hunting ducks after sunset	\$25 each
Shaver, Davidson**	3	"	Hunting ducks after sunset	\$25 each
Shaver, Rogalla***	6	"	Shooting ducks after sunset	\$25 each
Shaver, Totten**	2	"	Shooting at ducks after sunset	\$25 each
Shaver, Kelsey	1	Missouri	Shooting at ducks in close season	\$10

Steele	1	Iowa	Killing a duck after sunset	\$10 and costs
"	5	"	Hunting ducks after sunset	\$10 each and costs
"	10	"	Possessing ducks in storage in close season	\$10 each and costs
Whitehead	1	Georgia	Killing robins	\$5 and costs
"	1	"	Possessing ducks in storage in close season	\$5 and costs
Whitehead, Merier**	2	"	Exceeding daily bag limit on doves	\$25 each

* U. S. Deputy Game Warden

** Deputy State Game Warden

*** Cooperator

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Charlton, Cunningham**	1	West Virginia	Selling a blue heron
Linebaugh	1	Tennessee	Killing robins
Mestel*	1	Illinois	Killing ducks in close season
Perry	1	Mississippi	Killing ducks from motorboat
Roahen	1	Illinois	Possessing ducks in storage in close season
Roahen, Scholler*	1	"	Possessing ducks in storage in close season
Shaver, Moore**	1	Minnesota	Possessing ducks in storage in close season
Smith, Cushman*	1	Maine	Killing geese in close season
Whitehead	4	Georgia	Killing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

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No. 8.

GENERAL NOTES

Definite organization is now being effected for the establishment of the Upper Mississippi River Wild Life and Fish Refuge, and negotiations for the purchase of lands for it are being arranged. This Refuge will include about 300,000 acres of the bottom-lands along the Mississippi River from Rock Island, Ill., to Wabasha, Minn. W. T. Cox, former State forester of Minnesota, has been appointed superintendent of the Refuge and will make his headquarters at Winona, Minn. To assist in the acquisition of lands for the Refuge under the appropriation of \$1,500,000 for the purpose, Rudolph Dieffenbach has been appointed land valuation engineer. Mr. Deiffenbach was formerly with the Bureau of Internal Revenue. E. C. Hotchkiss has been temporarily detailed from the Washington office of the Migratory-Bird Division to Winona where he will assist in establishing the business office under the new project.

Dr. Peter P. Sushkin, distinguished Russian ornithologist who has been spending several months in America, returned to Washington after a tour of the West and visited Doctor Nelson on August 13. On the same day Doctor Sushkin examined the Biological Survey mammal collection in the National Museum.

Dr. Wilhelm Marinelli, of the University of Vienna, Austria, spent two days late in July with Dr. Jackson studying specimens of bears and other carnivores in the Biological Survey mammal collection.

Lincoln Ellsworth, American member of the Amundsen Polar expedition, visited Doctor Nelson at the Bureau on August 26.

Mr. Henderson attended the meeting of the International Association of Game, Fish, and Conservation Commissioners, and the Western Association of State Game Commissioners held at Denver, Colo., August 19 to 22. E. R. Kalmbach, of the Division of Food Habits Research, also was present and addressed the convention on the economic status of the crow.

Best wishes are extended to Frederick H. Mahlman, of Food Habits Research, and Miss Blanche M. Watson, of Biological Investigations, who were married on August 15. Mr. and Mrs. Mahlman will reside in Washington.

The following publications of the Bureau were issued in August:

- "Homes for Birds," by E. R. Kalmbach and W. L. McAtee. Farmers' Bulletin No. 1456. Issued August 5.
- "Game Laws for the Season 1925-26," by George A. Lawyer and Frank L. Earnshaw. Farmers' Bulletin No. 1466. Issued August 14.
- "Status of the Pronghorned Antelope, 1922-1924," by Edward W. Nelson. Department Bulletin No. 1346. Issued August 14.
- "Text of Laws of United States and Canada Relating to Game and Birds," Service and Regulatory Announcement, B. S. 63. Issued August 22.

Manuscripts have been submitted for outside publications as follows:

- Denmead, Talbott. "First Day on the Fatuxent."
- Dufresne, Frank. "The Siberian Dog in Alaska."
- Jackson, Hartley H. T. "An Unrecognized Water Shrew from Wisconsin."
- Jewett, Stanley G. "The Pacific Harlequin Duck (Histrionicus histrionicus pacificus).
- McAtee, W. L., and J. R. Malloch. "Report on a Collection of Philippine and Malayan Ploiariinae (Hemiptera: Ruduviidae).
- McAtee, W. L. "The Buff-backed Egret (Ardea ibis L., Arabic Abu Cerdan) as a Factor in Egyptian Agriculture." (A review.)
- Oberholser, Harry C. "Brazilian Tiger Bittern," and "June and July Birds about Washington, D. C."

BIOLOGICAL INVESTIGATIONS

F. C. Lincoln returned to Washington on August 3 after bird-banding operations on the Beaver Islands, in northern Lake Michigan. Through the cooperation of W. S. McCrea, of Chicago, it was possible to band more than 1,800 gulls and terns. A drive conducted at the colony of Caspian terns yielded over 700 birds at one time. Some success also has been had in trapping adult herring gulls. In addition to the banding work collections of birds and mammals were made, and on the return trip visits were made at South Lyon and Ann Arbor, Mich., to confer with Bureau cooperators.

Mr. Lincoln has the sincere sympathy of the members of the Bureau in the death of his mother, which occurred suddenly in Denver, Colo., on Sunday, August 30.

Vernon Bailey worked during most of the latter part of August at the Lafayette National Park, Mount Desert Island, Me., where beavers were reported to have increased to a troublesome extent. The transfer of a few of them to less crowded situations has settled the difficulties. Later Mr. Bailey investigated similar conditions on Prince Edward Island.

Dr. W. P. Taylor has returned to Tucson, Ariz., from the Southwestern Forest Experiment Station, at Fort Valley near Flagstaff, Ariz., where he has been studying the habits of rodents in relation to the forests. D. M. Gorsuch, who has been assisting in the work, remains at Fort Valley to continue the investigations.

ALASKA INVESTIGATIONS

Under the personal supervision of L. J. Palmer, assistant in charge of reindeer investigations, 10 young caribou bulls were transported last month from Kokrines to Nunivak Island on the Bering Sea coast. Originally 13 young caribou were captured and delivered at Kokrines for transportation down the Yukon River, but two of the animals had died so 11 were put aboard a barge and carried down the river as far as Old Hamilton where 10 of them, one having died enroute, were unloaded and placed aboard the Bureau's schooner Hazel, and taken to Nunivak Island. These operations are the beginning of the experiment planned by the Bureau for improving the strain of reindeer on Nunivak Island by cross-breeding with the caribou.

ECONOMIC INVESTIGATIONS

S. P. Young, leader in predatory-animal control, reports the taking on July 3 of a den of coyotes by Hunter Sutton at an altitude of 10,000 feet, 25 miles north of New Castle, Colo., on one of the summer-grazing sheep allotments in the White River National Forest. The discovery and eradication of this den show that coyotes den and raise their pups on the higher ranges as well as on lower areas.

In the North Minam River section of Oregon it was reported during July that at least 11 head of sheep had been killed by a bear. Hunter Sarrett was successful in trapping and disposing of the marauder within 24 hours, and no further reports of bear depredations have since been received from that locality.

Clyde F. Briggs, junior supervisor of predatory-animal control in South Dakota, captured "Three Toes," the notorious Harding County wolf, on July 23. He spent only 15 days on this job and took the wolf in the first of 14 settings of traps that he visited. Natural wolf scent was used as a bait. Fully 150 men had attempted to take this wolf during the 13 years he had been known as a killer in Harding County, and Mr. Briggs's feat of trapping him in such a short time was one of the best exploits in wolf-trapping that has been accomplished in the Northwest. Stockmen assert that the killings of this wolf amount to more than \$50,000 and that he takes high rank among great killers that have yielded to the organized work of the Biological Survey and its cooperators.

C. R. Landon, leader in predatory-animal control in Texas had planned to spend all of August in the western part of the State, giving demonstrations in the use of traps and poison and visiting hunters' camps and ranches, but he has been called to Houston to assist in the work of eradicating predatory animals in the territory where the new outbreak of foot-and-mouth disease has occurred.

A. E. Oman, leader of rodent control in Kansas, reports that ground-hogs "denning" along the borders of cornfields have cut down the stands of growing corn in the State. After the roasting-ear stage is reached the

groundhogs break down the stalks and riddle the ears. They also invade alfalfa fields, where they eat and wallow down the crop. This pest vies with the pocket gopher in destructiveness to orchards in the northeastern group of counties.

The Southern Pacific Railroad is taking great interest in the pocket-gopher control work of A. W. Moore, junior biologist in the Oregon district, and has furnished him with speeder transportation and an engineer assistant who travels with him from one section to another, giving instructions in poisoning the pocket gophers. Mr. Moore has already covered 120 miles of track within the Willamette Valley, and there is considerably more than this much left for the next work.

Some of the track foremen state that as much as 40 per cent of the track work is caused by pocket gophers and the elimination of these pests will be a particularly valuable piece of work since the railroad tracks become the winter homes of pocket gophers from the surrounding farmlands which at that time are too wet for their occupancy.

Growers of the Eola Orchards Country in Oregon, controlling some 800 acres of bearing English walnut trees, are cooperating with I. N. Gabrielson, leader in rodent control in Oregon, by paying half the salary and expenses of a man to work on the silver-gray squirrels in that district. This will be a continuation of work done by E. E. Horn before he left the Oregon district.

Leo K. Couch, leader of rodent control, states that a considerable number of cherry trees were found dying both from old and recent damage by field mice in the neighborhood of Kent, King County, Wash. There was little indication of mice at the time of an investigation in July, but the entire district has been more or less heavily infested during the past few years. A cooperative survey will be made by Mr. Couch and the county agent to determine the extent of the injury and to prevent its recurrence. It is very unusual to find orchards injured by field mice in western Washington.

FOOD HABITS RESEARCH

Prof. O. A. Stevens, of the North Dakota Agricultural College, has been appointed to assist in the marsh and lake survey work in Minnesota. He takes the place of Jean M. Linsdale who goes to the Museum of Vertebrate Zoology, University of California. The lake survey party is now in the Mille Lacs district.

Charles C. Sperry and John R. Greeley have surveyed the Rainey Wildlife Refuge and other areas in Louisiana, and have made a study also of duck-food conditions at Pascagoula, Miss.

Francis M. Uhler, after completing his studies of fish-eating birds in Minnesota and North Dakota, is conducting surveys of feeding places for wild fowl in the upper peninsula of Michigan.

FUR RESOURCES

Daniel M. Green, formerly of the Office of Exhibits, has been transferred to the position of senior administrative assistant in this division. His duties will be to assist Mr. Ashbrook in all phases of the fur-resource work. At present Mr. Green is on the Experimental Fur Farm at Saratoga Springs, N. Y., studying the propagation of fur-bearing animals in captivity and the general administration of experimental fur farming.

Mr. Ashbrook recently visited the offices of the National Association of the Fur Industry in New York City, on matters connected with the cooperative publication of a paper on "A Preliminary Study of Statistical Data on Fur Resources," in the Association's Yearbook.

GAME AND BIRD RESERVATIONS

Two fires started by lightning were discovered on July 18 about a half mile west of the Wind Cave National Park, S. Dak. Warden A. P. Chambers, of Wind Cave National Game Preserve, obtaining the services of several men, went immediately to fight the fires and succeeded in controlling them in a short time.

A small grass fire, also started by lightning, was discovered on August 2 on the Montana National Bison Range. The warden, accompanied by the assistant warden and another helper, succeeded in extinguishing it before more than three or four acres were burnt over.

A large number of big hawks, principally red tails, congregated early in August on abandoned land in the vicinity of the Bison Range to feed upon a cricket infestation there. More than 50 hawks were counted within a mile.

A noticeable increase in the number of Hungarian partridges is reported on ranches in the locality of the Bison Range and several large coveys have been seen.

Two female antelope, one two years old and the other two months old, donated to the preserve by Mrs. H. Q. Hagen, of Cabin Creek, Mont., and Mr. and Mrs. Bert Palmer, of Beach, N. Dak., have been placed on Sullys Hill Game Preserve, N. Dak.

H. Harrison Hoyt, formerly of the Forest Service, has been appointed assistant warden at the National Bison Range, Mont.

MIGRATORY-BIRD TREATY AND LACEY ACTS

The district assigned to Warden Ray C. Steele has been augmented to include all of Oregon, as well as that portion of the State of Washington lying west of the Cascade Range. This reassignment of territory is in consequence of the removal of Warden Tonkin from Baker, Oreg., to Sacramento, Calif.

Miss Eugenia M. Lane was appointed to the position of stenographer in this division, effective August 24, to fill the vacancy made by the resignation of Mrs. Louise G. Bittner.

Recent reports from United States deputy game wardens scattered throughout the country indicate a general marked increase over recent years in the spring flight of migratory wildfowl.

Cases Terminated - Reports Received During July

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barnes*	3	California	Shooting ducks after sunset	\$20 each
Ehlers*, Williams**	3	Indiana	Possessing ducks in close season	\$25 each and costs
" "	1	"	Killing a heron	\$10 and costs
Fleming*, Barber**	2	"	Killing ducks in close season	\$10 each and costs
Randall**				
Hoffman	1	Alabama	Killing doves in close season	\$10
Holmes	1	Kansas	Hunting ducks from motorboat	\$5
Hilliard, Pierce*	2	New Jersey	Shooting at ducks after sunset	\$10 each
Kelsey, Shaver	1	Missouri	Hunting ducks in close season	\$1
" "	2	"	Possessing ducks in close season	\$1 each
Linebaugh	1	Kentucky	Killing a heron	\$1
Pacetti	1	Florida	Hunting ducks prior to half an hour before sunrise	\$5
Pittman**	1	Kentucky	Hunting ducks in close season	\$25
Roahen	5	Illinois	Possessing ducks in storage in close season	\$15 each and costs
Roahen, Scholler*	1	"	Possessing ducks in storage in close season	\$100 and costs of \$12.80
" "	1	"	Possessing ducks in storage in close season	\$150 and costs of \$14.80
" "	1	"	Possessing a mounted swan	\$25
Scholler*	1	Indiana	Killing ducks in close season	\$10 and costs
Shaver	3	Minnesota	Possessing ducks in storage in close season	\$10 each
"	2	"	Hunting ducks after sunset	\$35 each
Shaver, Kelsey	3	Missouri	Hunting ducks in close season	\$1 and costs of \$25.10 each
Smith, Cushman*	1	Maine	Possessing scoters in storage in close season	\$5
Steele, Barnes*	2	California	Shooting ducks after sunset	\$20 each
Steele, Cooney*	1	Iowa	Possessing ducks in storage in close season	\$20

* U. S. Deputy Game Warden

** Deputy State Game Warden

Cases Reported For Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Black**	3	Michigan	Killing coots from a motorboat
Creech*	1	Missouri	Killing coots and ducks in close season and from a motorboat
Ehlers*, Holstine**	1	Indiana	Killing a woodpecker
Linebaugh	1	Kentucky	Killing a heron
Mestel*	2	Illinois	Killing ducks in close season
"	1	"	Hunting ducks in close season
Roahen, Scholler*	1	"	Possessing wood ducks

* U. S. Deputy Game Warden

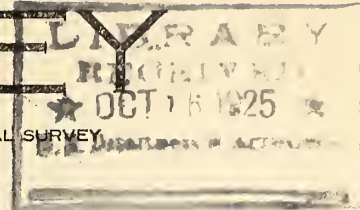
** Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 6.

Washington, D.C., September 30, 1925

No. 9.

GENERAL NOTES

Doctor Nelson left Washington on September 17 for an extended trip through the western States and will visit various field stations including the newly established headquarters of the Upper Mississippi Wild Life and Fish Refuge at Winona, Minn.

The following publications of the Bureau were issued in September:

"Hunting Migratory Game Birds on Big Lake Reservation, Arkansas," Service and Regulatory Announcement, B. S. 64. Issued September 17.
"Laws Relating to Fur Animals for the Season 1925-26," by Frank G. Ashbrook and Frank L. Earnshaw. Farmers' Bulletin 1469. Issued September 24.

Manuscripts have been submitted for outside publication as follows:

Gabrielson, Ira. N. "A New Bird Record for the State of Washington," and "Bird Notes from Oregon."
Howell, Arthur H. "The Point Barrow Gull in Missouri-- an Addition to the State List."
McAtee, W. L. "Game Birds Suitable for Introduction into the United States."
Preble, E. A. "The Peregrin Falcon," "The White-crowned Sparrow," "The Black-capped Chickadee," and "The Hermit Thrush."
Silver, James. "Will Your Trees Be Killed by Mice This Winter?"

BIOLOGICAL INVESTIGATIONS

Dr. H. C. Oberholser returned to Washington on September 12 after representing the Bureau at the annual session of the American School of Wild Life Protection held at McGregor, Iowa, and making an investigation of certain lands which are desired for the Upper Mississippi River Wild Life and Fish Refuge. All the sessions of the School were well attended and numerous addresses were given on game protection, bird migration, and other conservation subjects in which the Bureau is interested.

T. H. Scheffer, during August, made observations on captive ground squirrels at the Desert Station of the Experimental Farm at Prosser, Wash. The animals continued to come from the hibernating chambers to eat at intervals throughout the month, and considerable time was spent, in cooperation with the Game Commission of Lewis County, in investigating methods of capturing beavers and muskrats for stocking purposes.

Vernon Bailey spent the last three weeks of August in investigating the habits of beavers in Michigan. Colonies which were planted in 1924 were first inspected and found to be in a satisfactory condition. He devoted the latter part of the month to similar studies in the Marquette region and in the vicinity of the Iron River.

The extension of the appointment of D. M. Gorsuch will permit the continuance of observations on porcupines and other rodents at the Southwestern Forest Experiment Station this fall. Dr. W. P. Taylor will give his attention largely to problems at Tucson, Ariz., and to the preparation of various reports.

ALASKA INVESTIGATIONS

Ernest P. Walker, executive officer of the Alaska Game Commission with headquarters at Juneau, is making an extended official visit in the interior of the Territory conferring with game wardens. H. W. Terhune is acting in charge of the Juneau office during Mr. Walker's absence.

L. J. Palmer, assistant in charge of reindeer-grazing investigations, and his assistant, W. B. Miller, are engaged in getting the new experiment station at Fairbanks in operation.

D. H. Stevenson, Aleutian Islands Reservation warden since 1920, is to devote part of his time to the enforcement of the game and fur laws and regulations in southwestern Alaska under the direction of the Alaska Game Commission. On account of important developments arising in connection with the sheep-grazing operations on Unalaska and Umnak Islands, he will still supervise matters in connection with the Bureau's jurisdiction over the reservation.

ECONOMIC INVESTIGATIONS

Doctor Fisher is making an extended trip through the western States and the Pacific Coast.

The cooperative work being done on predatory-animal eradication by the various wool growers' associations, the State Board of Livestock Inspection Commissioners, and the Biological Survey was featured in an exhibit as part of the main display of the Department at the Colorado State Fair held at Pueblo during the week of September 1.

During August a total of 25 hunters were engaged in predatory-animal work in Colorado, the majority of whom were on seven national forests in the State where cooperative procedure with various wool growers' associations is in progress.

A sheep rancher in Lemhi County, Idaho, who owns about a fifth of the sheep in that county, reports that his total losses this year from all causes would not exceed 25 sheep as approximately 70,000 baits were placed in this county; the pick-up of poisoned coyotes was small, therefore, the poison must have been very effective.

Bears have done more damage on the Salmon National Forest in Idaho this year than coyotes. Nichols, the Bureau's hunter in this forest, was successful in killing two bears in August, one of which was a celebrated animal known as the "Hughes Creek Killer," a brown animal of the black species weighing about 600 pounds.

The stockmen of Bannock Valley, Idaho, a small territory not connected with a national forest, have promised to raise \$850 for the use of the Biological Survey. In the event that the money is forthcoming, Luther J. Goldman, leader in predatory-animal control in that State, plans to place a real American, full-blooded Bannock Indian on the job to work under the supervision of Bert S. Wilkins, a hunter now working in the Cache Forest. This Indian is at present serving as ranger on the Fort Hall Indian Reservation and has been a valuable aid to Mr. Wilkins.

Ross Graves, a hunter in Texas, succeeded in catching a wolf credited with the killing of 64 sheep and 20 goats during the past six months.

Several rains have started pocket gophers to working in the Willamette Valley, Oreg. During the month A. W. More, junior biologist, conducted 24 pocket-gopher poisoning demonstrations, 21 of which were with the Southern Pacific Railroad Company in demonstrating the methods to their section foremen. The entire Southern Pacific Railroad system in the Willamette Valley has now been covered and foremen and section crews instructed in the methods of poisoning pocket gophers. In addition Mr. Moore has been doing organization work on the Polk and Yamhill pocket-gopher projects and handling tests of squirrel damage in walnut orchards in Yamhill County.

A total of 11,177 quarts of poisoned bait was used by 267 cooperators in Arizona in August, covering 66,557 acres of infestation. It is estimated that 558,850 rodents were killed and \$199,671 worth of farm crops and range grasses saved. On one ranch near Williams, Ariz., prairie dogs were practically exterminated from the entire range of 50,000 acres, the rancher providing funds for all labor, horses, subsistence, and camp equipment. The rancher states that a wonderful piece of work has been done in killing thousands of the

pests which were destroying more than 75 per cent of the feed, and that he has not seen more than a dozen live prairie dogs left on his place. Ben Foster, junior biologist in charge of the work, picked up and counted 187 dead prairie dogs from one acre. At first the range was prebaited with unpoisoned grain, the poisoned grain being placed on each area two days afterward. Practically 100 per cent of the animals took the bait after the prebaiting test. The work on this ranch was so successful that an adjoining rancher had the crew move to his holdings to make a similar clean-up.

In Maricopa County, Ariz., a drive was made against pocket gophers in the Litchfield, Coldwater, and Avondale districts, and 58 miles of ditch banks were cleared of these pests.

L. C. Whitehead, leader in rodent control in Texas, visited the Grand Canyon of Arizona on August 15 on his vacation and honeymoon, and incidentally visited also the members of the Arizona District.

Lisle Morrison returned to Washington on August 30 from a field inspection trip on which he visited the headquarters of each of the districts, including the Denver laboratory, and conferred with district leaders on matters connected with their work. The type of exhibits best adapted for presenting the work of the Bureau in the most instructive manner was discussed with each leader. There is a considerable demand for these exhibits at county fairs.

FOOD HABITS RESEARCH

After a reconnaissance of the northwestern corner of the Upper Mississippi River Wild Life Refuge, the lake survey work in Minnesota has been closed for the season. Warren N. Keck has returned to the University of Iowa, and Prof. O. A. Stevens to the North Dakota Agricultural College.

Charles C. Sperry and John R. Greeley during the month visited Round Island, Miss., where M. E. Bogle is carrying on quail propagation, then proceeded to Beachton, Ga., where, with the assistance of Messrs. Stoddard and Handley, they surveyed several lakes in the vicinity. Later Mr. Sperry did similar work on Ossabaw Island, Ga., and dividing forces, he and Mr. Greeley investigated damage to rice by bobolinks in localities from North Carolina to Florida. Both have now returned from the field.

Francis M. Uhler has completed the lake survey work in the Upper Peninsula of Michigan and has returned to Washington.

Mr. Sperry is on leave at Swanton, Vt., where he has gone to inspect the newly arrived Sperry junior.

Brief field investigations relative to reedbirds and wild-duck foods were carried on during the month in the vicinity of Washington by Messrs. McAtee, Sperry, and Uhler.

FUR RESOURCES

Mr. Ashbrook, D.M. Green, and Dr. Karl B. Hanson of the Experimental Fur Farm, attended the State Fair at Syracuse, N. Y., on September 17 to inspect the exhibits of silver foxes, rabbits, and Karakul sheep. Seventy-three silver foxes were exhibited, representing five New York fur farms. Practically all breeds of rabbits were well represented and the fur quality of both rabbits and foxes was excellent for this season of the year.

Doctor Hanson and Mr. Green visited a number of fur farms in northern New York early in September to inspect methods of feeding, breeding, and handling silver foxes in captivity. They report that in the majority of cases the ranches visited were clean and sanitary, but the number of young small this year.

GAME AND BIRD RESERVATIONS

Mr. Goldman returned to Washington on September 7, having been absent since July 16 in connection with reservation and game work of the Bureau. He visited the National Bison Range at Moiese, Mont., and Wind Cave Game Preserve, Hot Springs, S. Dak., where, at both places, arrangements are being made to dispose of a considerable number of surplus elk, excessive numbers of which have become a serious problem on account of their over-grazing. An inspection was made also of the Winter Elk Refuge, where Mr. Goldman reports that the new hay crop will reach 900 tons; there are already on hand about 500 tons left from last season. Hay from ranches recently purchased by the Izaak Walton League of America, harvested co-operatively by the Bureau, totals 597 tons. The State game commissioner is arranging for the purchase of 1,200 tons more so that more than 3,000 tons will be available to feed the elk during the coming winter. This is a larger supply than usual but since the herds of elk have more than doubled in the past three years, it will probably all be needed if the winter is severe. The official count, together with the estimate of small outlying bands, was more than 20,000 head last spring, and it is estimated that with the new calf crop the number of elk in the southern herd, which ranged in summer from the southern part of the Yellowstone National Park southward on the Teton National Forest, is between 24,000 and 26,000 head.

Rudolph Dieffenbach, land valuation engineer, has recently left Washington for Winona, Minn., to assume his new duties in connection with the valuation and purchase of lands for the establishment of the Upper Mississippi River Wild Life and Fish Refuge.

Big Lake Bird Reservation is a favorite nesting place for mourning doves and during the past season thousands of them nested all over the Refuge. The red-headed woodpecker, the flicker, and many other insectivorous birds are also plentiful there. A number of young wood ducks have been seen on ^{the} Reservation but not so many as in previous years.

Large numbers of ducks are reported at Lake Malheur Bird Refuge, Oreg., and vicinity. Water fowl are said to be scarce at Conconully Bird Reservation, Wash., and in that general locality. At Tortugas Keys Bird Reservation, Fla., the birds are in good condition and the increase has been about 4 per cent.

Not so many pelicans and ibises nested at Indian Key Bird Refuge, Fla., as did last year but herons are well represented, and a great many cormorants and frigate birds are there.

A two-year-old white-tailed buck deer, donated by Mr. and Mrs. Francis E. Fisher, of Hensler, N. Dak., and a male antelope, donated by W. D. Odou, of Hettinger, N. Dak., have been placed on Sullys Hill Game Preserve.

Frank H. Rose, warden of the National Bison Range, Mont., was in Washington for a few days late in August for consultation in connection with the disposal of surplus game from the refuge.

MIGRATORY-BIRD TREATY AND LACEY ACTS

George A. Lawyer, who for nearly 10 years has been chief United States game warden in the administration of Federal laws protecting migratory birds, resigned effective September 15. Mr. Lawyer gave as his reasons for the action that he wished to gratify a long-expressed desire to leave the Government service in order to look after private business affairs. In acknowledging the tender of resignation Doctor Nelson expressed his appreciation of the valuable services Mr. Lawyer had rendered, particularly in helping frame Federal regulations for the protection of game and other migratory birds and other forms of wild life in the United States and Alaska, and in assisting State game and conservation officials, on their request, to draft new and revised legislation affecting game and other wild-life resources. Mr. Lawyer before his connection with the Department had been for several years president of the New York State Fish, Game, and Forest League.

Warden Steele of Iowa reports that in a recent conversation with Federal Deputy Game Warden Brietenback, of Keota, Iowa, he was informed that on August 18 southeastern Iowa experienced one of the worst hail storms in the history of the State. Although the storm was at its height only 15 minutes, the hail fell in such sizes that approximately 80 per cent of the song birds in that section were lost, as well as thousands of chickens and other domestic fowls. The creek

rose with 20 inches of water and great numbers of fishes were killed and seen floating downstream.

Mrs. Amber O. Snellings was appointed to the position of temporary stenographer in this division on September 2.

Cases Terminated--Reports Received During August

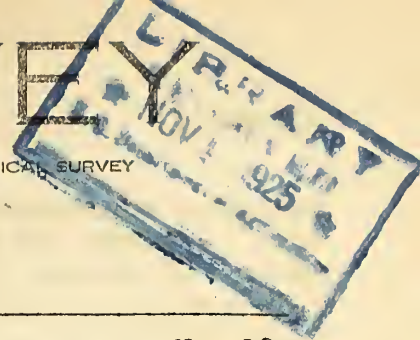
<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Black**	3	Michigan	Killing coots from motorboat	\$50 each
Holmes	3	Missouri	Hunting ducks after sunset	\$1 each and costs
Whitehead	4	Georgia	Killing doves in close season	\$5 each

**Deputy State Game Warden

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THE SURVEY

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UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 6.

Washington, D. C., October 27, 1925

No. 10.

GENERAL NOTES

Doctor Nelson, while on his field trip through the West, spent some time at Winona, Minn., looking after the work in progress for acquiring lands for the establishment of the Upper Mississippi River Wild Life and Fish Refuge. He spoke before a public meeting largely attended by those interested in this project and had numerous conferences with State officials and leaders of the Izaak Walton League. He found a strong public sentiment in favor of the creation of the refuge, and a fine spirit of cooperation on the part of State officials, members of the Izaak Walton League, and local residents.

Manuscripts have been submitted for outside publication as follows:

Ashbrook, Frank G. "The Future Outlook of Silver-fox Farming."
Couch, Leo K. "Nesting Habits of Richardson Pine Squirrel," "Color Variations of the Brown Rat," and "Killing Rats with Calcium Cyanide."
Gabrielson, Ira W. "Three Bird Records from Crystal Lake, Iowa."
Ligon, J. Stokley. "Antelope Sanctuary Needed in Southwest."
Lincoln, Frederick, C. "Some Notes on the Birds of the Washington Region," and "Mystery Band Number 1, Season 1925."
McAtee, W. L. "Judgment on the House Wren," "Bird Bartenders," and "Policies Relating to Type Specimens of Insects."
Oberholser, Harry C. "The 1925 Session of the American School of Wild Life Protection," and "August and September Birds about Washington."
Palmer, L. J. "Alaska Reindeer Industry."
Palmer, T. S. "Quail Hunting in 1925."
Ransom, Webster H. "Bobolink Taken in Spokane County, Washington."
Stewart, M. A. "Control of Field Mice."

The following publication of the Bureau was issued in October:

"Food of American Phalaropes, Avocets, and Stilts," by Alexander Wetmore.
Department Bulletin 1359. Issued October 20.

BIOLOGICAL INVESTIGATIONS

Vernon Bailey returned to Washington on October 5, after inspecting the beaver colonies established in northern Michigan in 1923 and visiting several places in the Upper Peninsula where beavers were reported doing damage. The colonies established under fence were found in thriving condition. A few beavers were captured in the Upper Peninsula and placed where they would find an abundance of suitable food. Several persons have

undertaken experiments to determine to what extent the occasional mischief of beavers can be controlled by supplying proper food in suitable places. On October 24 Mr. Bailey addressed the Biological Society of Washington on "Two Years Progress in Beaver Farming," his talk being illustrated with lantern slides.

Dr. H. C. Oberholser represented the Bureau at the Twelfth National Recreation Congress at Ashville, N. C., October 5 to 8, where he emphasized the work of the Biological Survey in conserving the wild life of the country with special reference to its bearing on outdoor recreation. He also represented the Bureau at the opening celebration of the new fish hatchery at La Crosse, Wis., on October 22, and conferred with officials of the State Commission of Conservation at Madison with reference to the proposed Upper Mississippi River Wild Life and Fish Refuge.

left

Dr. W. P. Taylor/Tucson on October 19 for the Southwestern Forest Experiment Station, near Flagstaff, Ariz., where studies of the relation of rodents to the forest are being conducted. He expects to remain there with D. M. Gorsuch for about a month.

ALASKA INVESTIGATIONS

Frank Dufresne, Alaska game warden and United States Deputy game warden, stationed at Nome, Alaska, has resigned, his resignation to take effect at an early date.

Ernest P. Walker, representative of the Biological Survey on the Alaska Game Commission, reports a most satisfactory trip into the interior of the Territory and that he finds the people interested in the success of the new game law for Alaska. He conferred during the latter part of October with Doctor Nelson, at Oakland, Calif., to arrange for plans for the more effective enforcement of the new law.

ECONOMIC INVESTIGATIONS

M. E. Musgrave, leader in predatory-animal control in Arizona, plans a mountain-lion campaign on November . . . With the aid of several additional hunters he will attempt to cover the central part of the State, from the Bill Williams Fork of the Colorado River to the New Mexico line, linking each district so that the lions that drift from one range to another can be picked up.

Noteworthy predatory-animal control work in Colorado in September was done by Hunters Dillon and Crumrine, Dillon taking five mountain lions in the Redvale section, and Crumrine two predatory bears in the Antelope Park locality of the Rio Grande National Forest. One of the bears was a silver-tipped grizzly responsible for injuries to a sheep herder, and the other one a large brown bear which had made inroads on various sheep herds during the summer.

Many prairie-dog infested areas on the Navajo Indian Reservation have been mapped by D. A. Gilchrist, leader in rodent control in Arizona, and his assistant. The Indians do not want the prairie dogs killed by poison, since they depend upon them for food. After a heavy rain they run water down the prairie-dog burrows and secure hundreds of the rodents, and in this way have exterminated many colonies.

The complete clean-up of prairie dogs on an irrigation project near Prescott, Ariz., in cooperation with the extension service of the University of Arizona, was an outstanding piece of work during the month. The rodents took readily the poisoned grain even with alfalfa knee-high. After the poison was placed, thousands of dead prairie dogs could be seen, and hundreds of buzzards came in to devour them. Many tons of alfalfa were saved by destroying these rodents and the farmers are consequently well pleased.

A. E. Oman, leader of rodent control in Kansas, cooperating with the Agricultural College Extension Service, reports that pocket gophers have been "playing possum" more or less during the hot summer weather. They have thrown up relatively few mounds, but now that rains have softened the ground and nights are cooler, they are beginning to make the "dirt fly." A single pocket gopher can throw up from 100 to 300 fresh mounds during the season if left unmolested. Because pocket gophers have been relatively inactive, many farmers may have believed that they were reduced by natural causes, while, in fact, there was a 200-per-cent increase in the pests last spring and this fall.

O. E. Steph, leader of rodent-control work in Montana, writes that porcupines are again doing damage to the gardens at the fish hatchery near Boreman. They have ruined all the sweet corn, of which they are exceptionally fond. Muskrats came out of the creek near by and carried off cornstalks broken down by the porcupines. Mr. Steph reports more hawks in the vicinity of Lakeview, Mont., than he had ever seen in one place. At the same time, the area is one of the worst squirrel-infested districts in the State. The hawks, it appeared, were living almost entirely on squirrels.

A. W. Moore, junior biologist in Oregon, attended the Polk and Washington County fairs with a local exhibit consisting of models which actually demonstrated poisoning and trapping rodents. More than 11,000 farmers stopped at the exhibits.

Albert M. Day, leader of rodent-control work in Wyoming, recently made an inspection trip through northern Niobrara County with County Agent Boyd and found excellent results of the prairie-dog campaign conducted there during the past three years. This large unit embraces a territory 45 miles long and 20 miles wide, and was formerly heavily infested with prairie-dog colonies extending from 10 to 30 miles along basins and valleys. In driving about 20 miles through country that had been almost solid prairie-dog towns, they counted less than a dozen live prairie dogs. On one ranch they saw native hay being cut from land formerly riddled with

prairie-dog mounds, and on two others they found fine hay and alfalfa fields on land which was a worthless prairie-dog colony a few years ago. This unit was systematically poisoned during 1923 and 1924, and last summer an inspector was employed by the county, State, and the Biological Survey to scour the district to poison with calcium cyanide any straggling survivors.

FOOD HABITS RESEARCH

E. R. Kalmbach returned to Washington on October 1 after spending five months in the rice area and the Gulf Coast region of Louisiana studying the relation of blackbirds to the rice crop and determining the necessity and feasibility of control measures. The presence of a comparatively few of the enormous flocks which usually take a heavy toll from the rice crop when in the milk and dough stages resulted in little serious damage this year. At no time from May until the end of the harvest was it possible to carry out effective control measures on a large scale owing to the scattering of the birds during the breeding season and to the great abundance of food available. Additional work will be done during March and April of next year.

F. M. Uhler, in company with the secretary of the Massachusetts State Audubon Society, made an investigation of the extent of damage by bobolinks and red-winged blackbirds on rice areas in North Carolina. Although most of the birds had passed on their migration at the time, information was obtained on the extent of damage to the crop.

FUR RESOURCES

Bridgewater Arnold, of New York, N. Y., representing the National Association of the Fur Industry, which is cooperating with the Bureau in gathering statistical data on various phases of the fur industry, is filling the position formerly occupied by Horace J. McMullen.

A set of blue prints has been prepared for free distribution showing the design and construction of the fox kennels and runs in use at the Experimental Fur Farm, at Saratoga Springs, N. Y. The prints are complete, including bill of material.

A representative of the Federal Fur Dyeing Corporation, of New York, N. Y., which is cooperating with the Bureau in establishing a market for the Townsend mole and is experimenting in blending and dyeing these moleskins for use in the trade, visited the Bureau on October 14 and exhibited several small animal pelts dyed in a variety of colors to match different dress materials. The modern system of dyeing enables the fur trade to supply furs which will match or blend with almost every fabric utilized in women's wear.

Breeding experiments with rabbits have been inaugurated at the Experimental Fur Farm, and other rabbit projects will be carried on in cooperation with individual breeders or rabbitries. This work includes breeding, feeding, housing, pelting, and preparing the fur and meat for market. A study will be made of handling rabbit skins and of dressing and

dyeing them. In addition, the Bureau is endeavoring to promote sound education in rabbit raising and to assist breeders in combating diseases of the animals, and in other problems.

A choice chinchilla doe, recently presented to the Bureau by the Royal Rabbitries, Ardsley-on-the-Hudson, N. Y., has been shipped to the Experimental Fur Farm and will be especially valuable in the rabbit experiments.

GAME AND BIRD RESERVATIONS

By Executive order dated October 21, the President has set aside a small island at the southern end of Mosquito Lagoon, on the east coast of Florida as a breeding ground and refuge for birds, to be known as Brevard Reservation. This island is now occupied in part by the colony of brown pelicans which formerly nested on Pelican Island, near Sebastian, Fla. The Brevard Bird Reservation, like others previously established by Executive order in Florida and elsewhere in the United States for the benefit of the birds, will be administered by the Department of Agriculture through the Biological Survey.

An ample rainfall at Big Lake Bird Reservation, Ark., has raised the lake level until the water is now at the best stage since 1922, and, consequently, there will be plenty of water for the birds coming to the Reservation this season. Wood ducks are returning there in large numbers.

In cooperation with the State Game Commission about 65,000 small fishes have been placed in a pond fed from warm springs, at the Winter Elk Refuge, Wyo., where conditions are suitable for their maintenance. Next year it is planned to distribute them in streams.

Hunters near Sullys Hill Game Preserve, N. Dak., late in September reported that not many ducks were obtained, as the weather was warm and the ducks flew infrequently, high, and out of range. Since that time about 6 inches of snow has fallen in that locality. An unusually large number of hunters, most of them from the eastern part of the State, were reported in the vicinity of Niobrara Reservation, Nebr., at the opening of the hunting season, October 1. More than 200 sharp-tailed grouse flew into the National Bison Range, Mont., when the first hunters appeared there this season.

The first geese seen by Warden W. D. Parker this fall passed over Sullys Hill Game Preserve on October 3. Many varieties of northern ducks are there now.

Cutting and stacking the hay at the Elk Refuge was completed on September 12. A total of 946 1/2 tons was harvested this year, not including 22 acres of oats stacked for threshing and about 10 tons of second-cutting alfalfa hauled into the barn.

Several weeks ago, a cow moose was seen crossing the Refuge about a mile north of headquarters. Moose range northward on the Teton National Forest, but this is the first record in recent years of one these animals on or near the Refuge.

Seventeen ravens have been received at the National Zoological Park, Washington, D. C., from Lake Malheur Bird Reservation, Oreg. This is the second consignment received from the Reservation, several of the ravens having been shipped in the spring. The birds arrived in fine condition.

Warden George M. Benson, of Lake Malheur Reservation, reports that ducks are dying there in large numbers, though all the birds found dead were fat and in good condition. All species that nest on the Refuge, except the waders, are affected with some malady, the nature of which has not been definitely determined.

Gerrit P. Wilder has returned to Honolulu from an extended trip in the South Seas and has resumed his duties as warden of the Hawaiian Islands Bird Reservation.

Clifford R. Hallowell, of Waterloo, Iowa, and Robert B. Miller, of Springfield, Ill., have been appointed land valuation assistants in connection with the work of establishing the Upper Mississippi River Wild Life and Fish Refuge.

IMPORTATIONS

The importation of foxes from Canada this fall began about the middle of September, and the demand for permits has been increasing daily. Permits have been issued for the entry of 1,484 foxes, mostly silver and black, with an occasional red and cross fox. The greatest number of shipments come from Prince Edward Island and New Brunswick and cross the border at Vanceboro, Me., Port Huron, Mich., and Blaine, Wash. Several requests have also been received for permits for shipments of foxes passing through New York en route to Norway.

Several large shipments of birds and mammals of various species have been brought in at the port of New York during the past 30 days. The birds are mostly canaries imported for the holiday trade.

MIGRATORY-BIRD TREATY AND LACEY ACTS

W. R. Dillon visited Norfolk, Va., on September 28, in connection with matters pertaining to the enforcement of the migratory-bird treaty act.

Francis W. Pingley, of Winchester, Va., has been appointed temporarily as United States game warden, effective October 15, and will be in charge of the motorboat Curlew, which has been assigned to duty on the Potomac River and Chesapeake Bay. Capt. Moody Creighton will act as assistant on the boat.

With the transfer of Warden Tonkin to the California district, that part of Oregon formerly in his district has been assigned to Warden R. C. Steele. Warden Ransom had been assigned all of Idaho, part of which formerly was in Mr. Tonkin's district.

Warden Hilliard spent the first two weeks of October in New York and Pennsylvania assisting Warden Farnham, where evidence of a number of violations of the treaty act was obtained on which prosecution will be instituted in Federal court.

For killing migratory waterfowl from motorboats on the Ohio River in Mason County, W. Va., during November and December, 1924, two violators arraigned in the Federal court at Huntington, W. Va., on September 17, 1925, entered pleas of guilty, and were each fined \$50. These convictions will probably have a deterrent effect on gunners in that section who are prone to employ this means to secure wild fowl.

As an indication of the extent of the cooperation being extended by the Bureau to State game departments, the recent work of Warden B. J. Shaver in Minnesota might be cited: During September and early in October he assisted wardens in that State in obtaining 55 cases. These were successfully prosecuted in State court, and fines totaling \$783 and costs of \$458.95 imposed. A number of other wardens are instrumental in effecting similar cooperation.

Reports indicate that there will be an abundance of waterfowl on Back Bay, Va., during the coming season. Numbers of ducks have already arrived (October 20). On the Potomac River about 20 miles below Washington, D. C., a good-sized flock of geese was seen by Deputy Warden Trenis on October 19. Many ducks also are appearing on the river.

In connection with the disposition of violations of State and Federal laws in cooperative Lacey Act investigations carried on by Wardens Barmeier, Farnham, and Shaver in St. Louis, New York, Chicago, and St. Paul during the past year, the Bureau continues to receive reports of successful State prosecutions, or requests for additional assistance and information from State officials or United States game wardens to whom the several matters were referred. Warden Mushbach reports 12 cases closed in State court in Montana during August, in which penalties amounting to \$302.50 were imposed. Six cases were settled in Idaho which cost the violators a total of \$344.25. In two cases in Missouri the cost amounted to \$57.95, and in two cases in Michigan, \$72.20. Warden Barmeier was also instrumental in the arrest of a "fur runner" and in the seizure of 55 beaver pelts which he was endeavoring to dispose of in St. Louis.

Wardens Mushbach and Barmeier have been collaborating on what promises to be one of the most important prosecutions under the Lacey Act for the illegal shipment of beaver skins. The case involves 11 shipments, which contained 244 beaver skins and 284 muskrat hides, to two fur-receiving houses in St. Louis.

Cases Reported for Prosecution -- Reports Received During September

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Bloxson, Jester**	1	Maryland	Killing a willet
" "	1	"	Killing sandpipers
Charlton, Harrison**	2	West Virginia	Killing ducks from a motorboat
Linebaugh	1	Tennessee	Shooting at doves in close season
Pacetti	3	Florida	Killing a flicker
Perry	4	Tennessee	Killing doves in close season
Scholler*	1	Illinois	Hunting ducks in close season
Whitehead, Magbee*	2	Georgia	Killing doves in close season

Cases Terminated

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Charlton, Harrison**	2	West Virginia	Killing ducks from a motor- boat	\$50 each
Linebaugh	1	Tennessee	Shooting at doves in close season	\$20

* U. S. Deputy Game Warden

** Deputy State Game Warden

THE SURVEY

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GENERAL NOTES

The Biological Survey was represented at the forty-third stated meeting of the American Ornithologists' Union held at the American Museum of Natural History in New York City, November 10 to 12, by W. C. Henderson, Dr. A. K. Fisher, A. H. Howell, Dr. H. H. T. Jackson, E. R. Kalmbach, Frederick C. Lincoln, W. L. McAtee, Dr. H. C. Oberholser, Dr. T. S. Palmer, E. A. Preble, and H. L. Stoddard. The program included the following papers by members of the Bureau: "Bird Banding in Progress and Prospect," by Mr. Lincoln; and "Distribution of the Seaside Sparrows in Florida," by Mr. Howell. Doctor Palmer presented two papers by foreign ornithologists: "The 75th Anniversary of the German Ornithological Society," by Dr. Theodor G. Ahrens, of Berlin; and "The Ornithological Collection of the Natural History Museum in Stockholm," by Dr. Einar Lönnberg, of Stockholm. Mr. Howell presented also a paper, "Nesting Birds of the Southern Everglades," by Edward J. Court, of Washington, D. C. The Brewster medal for the most meritorious work on American birds in the past six years was awarded to W. E. Clyde Todd, of Pittsburg, Pa., and M. A. Carriker, of Cartagena, Colombia, for their joint work on "The Birds of the Santa Marta region, Colombia," published in 1922. Mr. Todd was connected with the Biological Survey for a number of years (1891-1899). Ernest G. Holt, a member of the staff of The Biological Survey from 1912 to 1919, was elected to full membership.

Dr. Hugo Weigold, director of the natural history department of the museum at Hanover, Germany, was a visitor in offices of the Bureau during the week of November 16. Doctor Weigold is an observer of bird migration, having banded many birds at Helgoland and published several reports on his work.

Following is a list of new publications of the Bureau, copies of which may be had on application:

- "Directory of Officials and Organizations Concerned with the Protection of Birds and Game," compiled by Talbott Denmead and Frank L. Earnshaw. Department Circular 360. Issued October 29.
- "Blue-fox Farming in Alaska," by Frank G. Ashbrook and Ernest P. Walker. Department Bulletin 1350. Issued November 6.
- "Food Habits of the Vireos: A Family of Insectivorous Birds," by Edward A. Chapin. Department Bulletin 1355. Issued November 13.

Manuscripts have been submitted for outside publication as follows:

- Dufresne, Frank. "Dose Yavil Caribou."
- Lincoln, Frederick C. "Mystery Band Number 3, Season 1925."
- McAtee, W. L. "Insect Taxonomy: Preserving a Sense of Proportion," and "Notes on Neotropical Eupteryginae with a Key to the Varieties of Alebra albostriella (Homoptera: Jassidae).
- Palmer, L. J. "The Alaska Reindeer Industry."
- Silver, James. "Enter Ground-hog Control."

The following radio talks by members of the Washington office were broadcast under the auspices of the Smithsonian Institution during November from Station WRC, Washington, D. C.: E. A. Preble, "Musk-oxen, Cattle of the Arctic," November 7; Frederick C. Lincoln, "Our Autumn Birds," November 14; and E. A. Goldman, "Howler and Spider Monkeys," November 21.

Addresses given by members of the Bureau before the Biological Society of Washington during the month were as follows: "Overbrowsing by Kaibab Deer," E. A. Goldman, November 7; "Report of the Recent Meeting of the American Ornithologists' Union, New York," Dr. T. S. Palmer; "When Elk Come Down" (motion pictures), W. C. Henderson; and "Birds of the Farallon Islands, California," and "The Bird Reservations of Louisiana" (motion pictures), Dr. H. C. Oberholser, November 21.

BIOLOGICAL INVESTIGATIONS

Olaus J. Murie, who spent the summer and early autumn in Alaska, returned to Washington on November 1. While in Alaska he made a general investigation of the bird and mammal fauna of the western end of the Alaska Peninsula and the neighboring islands, in which little-known section he secured large collections of birds, animals, and plants and a great number of valuable notes on these subjects. After the close of this work, to obtain data on caribou, Mr. Murie made a trip into the interior of Alaska from Seward to Fairbanks, and thence to Dawson via the Tanana and Yukon Rivers, reaching the coast again at Skagway via the Yukon and White Pass Railway.

Dr. H. C. Oberholser, following his attendance at the opening of the Federal Fish Hatchery, at La Crosse, Wis., participated in conferences at Madison, Wis., with the governor and the State commissioner of conservation concerning the Upper Mississippi River Wild Life and Fish Refuge. At the conclusion of the conference he returned to Washington on November 2.

Dr. W. P. Taylor spent about a month, including the latter part of October and early November, at the Southwestern Forest Experiment Station, near Flagstaff, Ariz., working on the relations of various rodents to the forest. These investigations have now progressed to a point which promises interesting results.

Work conducted by Theo. H. Scheffer during the past month included observations on the hibernation of ground squirrels, investigations concerning which are now being conducted at the Experiment Farm, at Prosser, Wash.

ECONOMIC INVESTIGATIONS

Doctor Fisher returned on November 7 from an extended trip in the West to inspect field operations.

Best wishes are extended to Elmer R. Scholl, stenographer in this division, and Miss Flora McCormack, of Prince Edward Island, Canada, who were married at Washington, D. C., Friday evening, November 20.

L. D. Jandreau, a hunter in the South Dakota district, working along the Missouri River bottoms near Oacoma, S. Dak., brought pig and poultry losses to an end in that region during August, September, and October. Twenty-six coyotes, 24 adults and two of this season's young, were taken. On one ranch 70 pigs and a large number of chickens and turkeys had been killed by coyotes, and other farms and ranches had heavy losses. Hunter Jandreau brought the killings to an end in 12 days after he arrived.

Hunter Archie Howe killed two coyotes in the game pasture at the Wind Cave National Game Preserve, S. Dak. He is getting out poison lines in all directions, covering a circle of about 20 miles, with Wind Cave as a center.

Hunter John Martin, also of South Dakota, trapped a lynx on Grand River in Corson County. This is the first lynx taken in the organized work in that State.

The county commissioners of Harding County, S. Dak., have made an allotment of \$900 for cooperation in predatory-animal control work, begun on October 12. The Harding County Wool Growers Association also has allotted \$300 for use in predatory-animal work in that county, and has been successful in obtaining \$300 from the county commissioners for an educational campaign in rodent control in which particular stress is to be placed on jack rabbits.

George E. Holman, leader in predatory-animal control in Utah, while rounding up saddle horses on October 30 met with a painful accident when the horse on which he was riding fell through a bridge and threw him on some jagged stumps. He was so seriously injured that medical attention was necessary.

In a most successful rodent-control campaign conducted by the Biological Survey and the Extension Service of the University of Arizona, launched on March 20 mainly against the prairie dogs of northern Arizona and closed on October 31, one and a third carloads of poisoned grain were placed on half a million acres, about 2,500 farmers and stockmen took part, and it is estimated that not less than 3,000,000 rodents were killed. It is estimated that, by eliminating these pests the forage production of the area was increased by more than 76,000 tons, which if valued at only 50 cents a ton would be worth \$38,000. The cost of clearing the area was less than 4 cents an acre. One wool grower increased his forage to the extent that he was able to place 6,000 more sheep on the range. Another wool grower of Williams, Ariz., completely exterminated the prairie dogs on his range of 50,000 acres at the cost of less than \$500, and states that the feed thereby produced is the cheapest he ever bought. Many alfalfa growers on the Prescott Farms Project have increased their alfalfa yield more than a third in the same way.

James Silver, leader of rodent-control work in the eastern district, while in Gallatin County, Ill., heard reports of extensive crow injury to the corn crop both at planting time and in the roasting-ear stage, and of crows carrying off pecan nuts, which represent an industry of from \$50,000 to \$100,000 a year, one farmer stating that crows had already made away with

more than a third of his crop and that they had picked out the larger and softer-shelled nuts. The section in which the crow situation is most serious extends on both sides of the Ohio and Wabash Rivers in Illinois, Indiana, and Kentucky.

All counties in the range of prairie dogs in Wyoming have cleaned definite units of the pest, writes Albert M. Day, leader of the rodent-control work conducted in cooperation with the Extension Service of the University of Wyoming. Individuals, counties, and State and Federal departments are cooperating, so that all lands in a given unit — deeded, State, and public domain — are being treated. Fine farms, meadows, and fields now cover sites which a few years ago were prairie-dog towns. Such sections may be seen throughout the entire eastern part of Wyoming.

The Sheridan Rod and Gun Club is cooperating with the Biological Survey and ranchers of Sheridan County, Wyo., in an extensive magpie-poisoning campaign. The birds are a general nuisance, robbing nests and killing the young of domestic fowl and valuable game and song birds. They also pick brands and sores on livestock and have been known to blind weakened animals in winter. The Biological Survey will furnish poison and the club will furnish ground-beef suet, which will be distributed in a systematic manner over practically the whole county during December and January. Conducting the campaign during the severe winter months assures that no other birds will be killed by the poison.

FOOD HABITS RESEARCH

At the close of the A.O.U. meeting Mr. McAtee spent several days in Connecticut conferring with sportsmen and others interested in the propagation of wild-duck foods and the cooperative quail investigation.

H. L. Stoddard, who also attended the A. O. U. meeting, stopped in Washington on his return to Georgia to interview specialists of the Bureau of Animal Industry relative to diseases of poultry and quail.

"Food Habits of the Vireos: A Family of Insectivorous Birds," Department Bulletin 1355, which came off the press on November 13, presents a study of 10 species of this family with special reference to their economic status and the percentages of various insects and other items in their food.

FUR RESOURCES

Mr. Ashbrook attended the annual silver-fox show and convention of the American National Fox Breeders Association, at Buffalo, N. Y., November 9 to 12. On his return he stopped at the Experimental Fur Farm at Saratoga Springs, N. Y., to assist in culling and pairing the animals to be used in the breeding work during the coming season.

D. Monroe Green spent the week of October 23 in New York City studying the methods used by fur establishments in dressing, shearing, plucking, and dyeing rabbit skins for manufacturing purposes.

Miss Iura G. DeMass, stenographer in this division since April, 1924, resigned on November 15. Miss DeMass is succeeded by Miss Elsie Galloway, appointed November 23.

Five choice New Zealand red rabbits - four does and one buck - were recently presented to the Bureau by Alfred Zimmern, secretary of the American Association of New Zealand Breeders. These animals are all of high quality, pedigree bred, and registered, and will be of exceptional value in the rabbit studies recently started at the Experimental Fur Farm:

"Blue-fox Farming in Alaska," Department Bulletin 1350, issued on November 6, presents information based on a study of the methods and practices of the blue-fox industry which have been found to give the greatest success on islands of Alaska, and is of especial value to beginners in blue-fox raising. Ranch organization, breeding, feeding, housing, and sanitation are treated in detail, and a section also is given on white-fox farming in northern Alaska.

GAME AND BIRD RESERVATIONS

The initial purchase of land for the establishment of the Upper Mississippi River Wild Life and Fish Refuge has been made. This land is in Houston County, Minn., and was purchased from Mr. and Mrs. George H. Howe, who, realizing the value of the Refuge to the country at large and the Mississippi Valley region in particular, showed their public spirit in the terms on which they offered the land.

Otto E. Mueller, of Wisconsin, has been appointed land valuation engineer in connection with the work of establishing the Upper Mississippi River Wild Life and Fish Refuge.

Very unusual weather conditions for this season have prevailed at various reservations. At Wind Cave Preserve, about four inches of snow fell on October 6 and more was reported there at various times during the month. The temperature at that Preserve was 13 degrees below zero on October 18. Cold high winds and shifting snows have been reported at the Niobrara Reservation and vicinity, with the temperature at 8 degrees below zero on October 28. On the morning of October 17 zero weather was reported at the Winter Elk Refuge, Wyo., and at Big Lake Bird Reservation, Ark., there were several inches of snow on October 30.

On November 5 ten elk appeared on the Elk Refuge on the Germain tract, and 15 elk bedded down near the headquarters early in the morning of the same day. These animals were the first to appear at the Refuge this season, and they later moved up Cache Creek. The bulk of the elk herd was still far back in the mountains on November 1. Wyoming has purchased 1,500 tons of hay in the vicinity of the Elk Refuge, making a total of about 4,200 tons available for feeding the elk this winter.

Grouse and prairie chickens are said to be scarcer near Sullys Hill Game Preserve than they were a year ago. About 50 wild ducks are still on Sweetwater Lake within this Preserve where they stay in the open water and are fed grain every day.

J. C. Yates is acting as assistant to Warden L. L. Bryan, of Big Lake Bird Refuge, Ark., during the hunting season. The water has risen at this reservation to such an extent that it is now too deep for the ducks, other than the deep water divers, to feed there.

Will C. Barnes, assistant forester in charge of grazing in the Forest Service, Glen A. Smith, assistant district forester, and Theodore Shoemaker, in charge of the Office of Public Relations of the Missoula office, visited the Bison Range, Mont., on October 15. Warden Frank H. Rose of the Bison Range, with his assistants, corralled 527 buffalo on October 16 and 17 for the purpose of selecting those to be disposed of as surplus stock. A large number have since been turned back on the range.

Warden George M. Benson, of the Lake Malheur Bird Refuge, Oreg., reports that several thousand swans feeding on the lake were keeping large areas free from ice.

The sincere sympathy of the members of the Bureau is extended to Elton C. Hotchkiss, of the Winona, Minn., office, in the death of his father, which occurred at Falconer, N. Y., on October 31.

MIGRATORY-BIRD TREATY AND LACEY ACTS

The Government motorboat Carvasback is now being used for patrol duty on Back Bay, Va., under the supervision of John E. Barnes, of Norfolk, Va., who has been appointed temporarily as United States game warden, effective November 1.

Zadock G. Forbes, of Poplar Branch, N.C., was appointed temporarily as United States game warden, effective November 16. He will patrol Currituck Sound in his personally owned motorboat.

United States Game Warden John Q. Holmes, of Orleans, Nebr., reports that the recent cold spell over the country has brought a wonderful flight of ducks and other waterfowl to Nebraska.

United States Deputy Game Warden James W. Stuber, of Columbus, Ohio, wrote the Bureau on October 26 regarding a very unusual flight of Canada geese, as well as mallard and pintail ducks, through central Ohio on October 20 and 21. Thousands of Canada geese swept down over Ohio, covering a belt about a hundred miles wide and extending to Celina at Lake St. Marys in Mercer County in the western part of the State, to Newark and Puckeye Lake in Licking County to the east, the center of the flight seeming to be down the Scioto River through Columbus, where the largest numbers of both geese and ducks were reported. Mr. Stuber states that it was undoubtedly the largest flight that has passed through Columbus at one time in 15 years.

Cases Reported for Prosecution Reports Received During October

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	3	Missouri	Killing brant in close season
Birsch, Haynes**	1	North Carolina	Possessing a wood duck
Bloxsom, Wiley**	1	Delaware	Killing a nighthawk
Charlton	1	Indiana	Killing ducks in close season
Farnham	1	New York	Killing a heron
Holmes, Varley*	1	Nebraska	Killing avocets
Perry	5	Tennessee	Killing doves in close season
"	2	"	Killing nighthawks
Riddick	2	Texas	Killing nighthawks
Riddick, Smothers*	2	"	Killing sandpipers
Riddick, Ridgway**	2	"	Killing doves in close season and sandpipers
Roahen, Fidler*	1	Illinois	Killing a wood chuck
" "	2	"	Possessing wood ducks
Scholler*	2	"	Possessing grebes
Shaver	1	Wisconsin	Hunting ducks in close season
Smith	1	New Hampshire	Possessing a loon
Steele	1	Iowa	Possessing a wood duck
"	1	"	Killing a wood duck
"	1	"	Possessing flickers
Whitehead	1	Georgia	Killing a dove in close season
Whitehead, Magbee*	1	"	Possessing doves in close season
" "	3	"	Killing doves in close season
Whitehead, Hartley**	2	"	Killing doves in close season
Whitehead, Woods**	1	"	Killing a nighthawk
Whitehead, Newsom**	1	"	Possessing doves in close season

Cases Terminated

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Beloat,* Ehlers*	3	Indiana	Killing ducks in close season	\$25 each
Bloxsom,	1	Virginia	Hunting ducks from motorboat	\$50
Derrickson**				
Bloxsom, Jester*	2	Maryland	Killing sandpipers	\$25 each and costs
Charlton, Stone*	1	Michigan	Shooting ducks before sunrise	\$50
Charlton	1	Indiana	Killing ducks in close season	\$25
Ehlers,* Tilton**	1	"	Killing ducks in close season	\$1
Randall**				
Ehlers*, Lamphan**	1	"	Hunting ducks in close season	\$25
Heller*	1	Missouri	Killing doves in close season	\$10
Mushbach, Jones*	3	No. Carolina	Selling waterfowl	\$20 each
" "	1	"	Selling waterfowl and shipping geese in excess of weekly limit	\$20
" "	1	"	Selling ducks	\$10
Pacetti	1	Florida	Hunting ducks prior to half an hour before sunrise	\$5
Perry	8	Tennessee	Killing doves in close season	\$20 each
Riddick	1	Arkansas	Possessing ducks in close season	\$10

Riddick	3	Texas	Killing ducks after sunset	1 day each in custody of the marshal
Roahen, Shaw*	2	Illinois	Killing ducks after sunset	\$15 each and costs
" "	1	"	Killing a bittern	\$15 and costs
Roahen, Charlton	2	"	Killing ducks in close season	\$50 each
Roahen	3	"	Killing ducks after sunset	\$15 each and costs
Roahen	1	"	Killing ducks prior to half an hour before sunrise	\$15 and costs
Skaver, Rank**	1	Minnesota	Killing a tern	\$10
Steele	1	Iowa	Possessing flickers	\$15 and costs
"	1	"	Shooting at snipe after sunset	\$10 and costs
Whitehead,	3	So. Carolina	Killing wood ducks	\$10 each
J. B. Rowland*				

* U. S. Deputy Game Warden

** Deputy State Game Warden.

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
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No. 12

Office of the Chief of Bureau
December 30, 1925

TO ALL READERS OF THE SURVEY:

The season's greetings. Once a month our widely scattered forces are in a sense brought together through the pages of THE SURVEY. At the close of the year, and incidentally of the sixth year of our house-organ, I am glad to avail myself of this medium to express my appreciation of your faithful and varied services. I wish all of you and the members of your families A Happy New Year.

Sincerely yours,

E. W. Nelson

GENERAL NOTES

The twelfth National Game Conference of the American Game Protective Association was held in New York City at the Pennsylvania Hotel, Monday and Tuesday, December 7 and 8. The following members representing the Bureau were in attendance: W. C. Henderson, Dr. A. K. Fisher, E. A. Goldman, Talbott Denmead, and Herbert L. Stoddard. In the absence of Doctor Nelson, Mr. Henderson read his paper on "The New Alaska Game Bill"; Mr. Goldman spoke on "Surplus Game, a Problem in Administration"; and Mr. Stoddard on "Progress of the Cooperative Quail Investigation in Georgia." S. P. Wooley, a United States deputy game warden from Kentucky also gave an interesting talk on game-law enforcement. The conference was concluded on the evening of December 8 with a banquet at the Pennsylvania Hotel, which was attended by all the Bureau representatives.

Dr. A. K. Fisher and Dr. T. S. Palmer attended the annual dinner of the Boone and Crockett Club, at the University Club, New York City, on December 21.

Dr. Stephan Soudek, assistant zoologist at the Institute of the College of Agriculture and Forestry, at Brno, Czechoslovakia, visited offices of the Bureau about the middle of November, and expressed himself as much interested in our methods of recording and assembling data, particularly on the habits and distribution of birds and mammals.

The following publications of the Bureau were issued in December:

"Report of Chief of Bureau of Biological Survey," by Doctor Nelson. Released December 1.
"How to Attract Birds in Northeastern United States," by W. L. McAtee. Farmers Bulletin 621; revised, November, 1925; received, December 21.

Manuscripts have been submitted for outside publication as follows:

Ashbrook, Frank G. "Cooperative Effort in the Fur Industry" and "Harvesting Fox Pelts."
Jewett, Stanley G. "The Prairie Falcon (Falco mexicanus) in the Willamette Valley, Oregon."
McAtee, W. L. "Vernacular Names for Insects."
Murie, Olaus J. "The Porcupine in Northern Alaska."
Oberholser, Harry C. "The Migration of North American Birds (the Swifts)" and "October and November Birds at Washington."
Palmer, L. J. "Alaska Lichens, Their Occurrence and Grazing Value."
Palmer, T. S. "Deer Hunting in 1925."
Silver, James. "The Modern Builder, Arch Enemy of the Rat."

BIOLOGICAL INVESTIGATIONS

Theo. H. Scheffer, in the course of his field work on ground squirrels and other mammals, during November collected many notes on the effects of the past two years' open season in beavers, on which he will later prepare a report.

Dr. W. P. Taylor has continued work in cooperation with E. E. Horn and D. E. Gorsuch on the relation of porcupines to the forest. He has also been engaged on the report on the Birds of Washington, and on biological work on Wing Mountain Mesa, and in inspecting the experimental quadrats on the Santa Rita Reserve.

Dr. Brooke Nicholls, of Melbourne University, Australia, visited offices of Biological Investigations early in November. He was especially interested in the Bureau's methods of collecting and recording data on the

distribution and habits of mammals and in the graphic presentation of their ranges, and plans to apply these methods in working out the distribution of mammals in Australia. He was given a sample distribution map of an American fur-bearer, to illustrate the methods of the Bureau.

Notable additions to the mammal collection during November included an interesting specimen of bear from the lava beds of Oregon, received from Dr. C. Hart Merriam (who was the first chief of the Biological Survey); specimens of caribou and mountain sheep from British Columbia, presented by John M. Holzworth, of New York; and skins and skulls of a peculiar race of grizzly from the Delta River region of Alaska, collected and presented by Dr. Theodore Lyman, of Cambridge, Mass.

ALASKA INVESTIGATIONS

Ernest P. Walker, administrative officer for Alaska and member of the Alaska Game Commission, has reported the wreck of the Bureau's power boat Marten, during a severe storm at Nikiska No. 2, in Kaslof Lake, with a loss that will reach approximately \$1,500. A sudden change of the wind made it necessary to hoist anchor and make ready to depart when the collar on the clutch snapped and left the boat and its crew of three at the mercy of the waves. In spite of every effort made to save it, the boat was washed up on the rocky shore, where it was pounded so severely that it was soon a total wreck. The crew managed to get ashore safely. Since June 23, 1924, the Marten has been doing patrol work in the Cook Inlet region, under command of Game Warden A. H. Hardy, of Anchorage. It was strongly built, 30 feet in length at the water line, of 9 1-2 foot beam, had a registered depth of 3 feet 8 inches, and was equipped with a 6-horsepower motor, with a speed of 6 miles an hour. Unless funds can be provided to replace the boat, the work of enforcing the game and fur laws in the Cook Inlet region will be seriously crippled.

ECONOMIC INVESTIGATIONS.

E. E. Horn, of the Extermination Methods Project, with headquarters at Denver, Colo., came to Washington early in December for a short period during which he will be engaged on special problems in the use of poisons for the destruction of injurious animals.

We are glad to report that George E. Holman, leader of predatory animal work in Utah, has recovered sufficiently from his recent accident, and the operations made necessary by it, to resume his duties.

Work on cooperative projects in predatory animal control among stockmen and county officials continues actively in Oregon. An additional project was started in Douglas County during the past month with funds provided jointly by the State Live Stock Sanitary Board, Douglas County,

and the stockmen. One of our regular hunters and Assistant Inspector Williams are getting the work well under way. Livestock men generally throughout the State are furnishing bait material, and in numerous cases men also to assist in the poisoning operations.

During the early part of November, a dog belonging to Hunter Grant Nelson, of Klamath County, Oregon, was bitten by a rabid coyote and later developed symptoms of rabies and bit the small son of Mr. Nelson. The dog was killed and the boy given the Pasteur treatment. Through prompt action of Hunter Nelson, a number of stray dogs in the community were immediately killed, and there have been no additional signs of rabies in that section.

At a ranch near Arman, Butte County, South Dakota, coyotes recently killed 102 turkeys, the average value of which, ranch-dressed, has been about \$4.

The one-man poisoning campaign on the Cherry Creek Division of the Cheyenne Indian Reservation in Ziebach County, S. Dak., is turning out to be one of the most satisfactory pieces of work under way at this time, writes Louis Knowles, predatory animal leader of that State.

On a recent visit by Mr. Knowles to the Niobrara Reservation, near Valentine, Nebr., it was found that coyotes were digging under the game fence about the antelope pasture. Poison stations were at once placed at several points on the reservation.

D. A. Gilchrist, leader of rodent control, in cooperation with the Extension Service, University of Arizona, reports a great increase in the work this year, due to the fact that more and more people are learning that it pays to control rodents. The stockmen of the State now realize that they have more than 5,000,000 acres of grazing land in the State that are only 17 per cent efficient, as it has been proved that the prairie dogs are destroying 83 per cent, or 324 pounds of grass to the acre. The stockmen also have found that rodents can be controlled for only 5 cents an acre and that they can be replaced with valuable livestock. In fact one wool-grower has placed 6,000 more sheep on the range after killing the prairie dogs and he now has more feed than ever. Many stockmen who thought that the prairie dogs could not be controlled now see that the rodents have been exterminated from Cochise, Graham, and Gila Counties, and have placed rodent control first on the list of their range improvement programs.

A successful campaign against rats was conducted by Messrs. Laythe and Green during November at Florence and Canon City, Colo., in cooperation with the county agent. Preliminary talks were given before both city councils, where also plans and methods of the campaigns were discussed. Each city ordered 50 pounds of barium carbonate and a number of traps. Posters were put up in both cities and the Department's rat film was used at motion picture theaters.

Considerable success attended various rat clean-up drives in Portland last month, according to information received from I.W. Gabrielson, State leader in rodent control. On one street several spectacular drives were staged in buildings which had been rat proofed. In one instance the killing of 130 rats in a few minutes aroused keen interest and made it easy to follow up the work with poisoning and other methods.

Mr. Gabrielson also states that with the growth of the bulb industry in western Oregon, increasing calls for assistance in controlling moles and pocket gophers are being received. The mole problem promises to be one of very great importance to people engaged in this business. Pocket gophers are more easily controlled than moles, and methods of applying calcium cyanide in control of the latter will again be tried out this winter.

FOOD HABITS RESEARCH

C. C. Sperry visited the Back Bay section of Virginia and Currituck Sound, North Carolina, from December 1 to 5, taking a census of the wild-fowl of those waters, particularly swans. Large numbers of swans, Canada geese, snow geese, and several species of ducks were noted in that region. On the following week Mr. Sperry, in company with Captain Creighton of the "Curlew" and United States Game Wardens Farnham and Pingley, made a trip down the Potomac and along the western shore of Chesapeake Bay as far north as the Susquehanna Flats. Fully 6,500 swans were seen on this trip, the greatest number being on the Susquehanna Flats.

F. M. Uhler, assisted by United States Game Warden E. V. Visart, spent December 7 and 8 in parts of Arkansas collecting data on the bird and plant life of an area that has been suggested as suitable for a Federal bird reservation.

H. I. Stoddard, who attended and addressed the annual meeting of the National Game Conference at New York December 9-10, stopped in Washington on his return trip and also at the Virginia State Game Farm at Boulevard, Va.

C. O. Handley also inspected the Virginia Game Farm, afterward visiting the Washington office on December 14 and 15 to confer with those in the laboratory concerning matters of stomach examination in connection with his studies of the food of quail in Georgia.

FUR RESOURCES

Mr. Ashbrook visited the Experimental Fur Farm at Saratoga Springs, December 12 to 13, to examine the foxes to be retained as breeders. After the final culling was made fifteen pairs were kept. A number of the foxes previously culled were pelted.

Doctor Hanson arranged for the purchase of a fine pair of silver-fox pups on November 27, making two pairs purchased for breeding purposes this year. There are now three pairs of pure-bred silver foxes on the farm.

D. Monroe Green returned to headquarters on December 22 and reports a successful meeting of the American Rabbit and Cavy Breeders' Association, at Colorado Springs, Colo., December 4. He has been gathering information on rabbitries on the west coast and states that this business is carried on there extensively. A number of breeders have donated rabbits to be used in the studies being carried on at the Experimental Fur Farm.

GAME AND BIRD RESERVATIONS

Three yearling buffalo, one bull and two cows, were shipped from Wind Cave Game Preserve, South Dakota, recently to a private purchaser at York, Pa. It is reported that the animals were met at the station at York by thousands of people, and that one of the cows was on exhibition for a day or two at a local theatre.

Thirty-three elk, a part of the surplus animals in the herd at the Wind Cave Game Preserve, were shipped on November 26 to the Elk Breeding and Grazing Association at Middleboro, Mass.

Three buffalo calves, one male and two females, have been shipped from the National Bison Range to Fond du Lac, Wis., for the city park at that place.

The past season's elk calf crop at Niobrara Reservation is reported to number 17.

A grass fire which started northwest of Niobrara Reservation on November 21 and approached to within half a mile of the north pasture was fought by the warden and other residents of the vicinity and brought under control before night.

Early in December, Warden Almer P. Nelson, of the Elk Refuge, estimated that there were approximately 4,000 elk on the Refuge and adjacent ranches.

A new 50-foot flag pole, set in concrete and surmounted by gold-colored ball, has been erected at the headquarters of the Elk Refuge.

George M. Benson, warden of the Lake Malheur Bird Reservation, Oregon, reports that on an inspection trip over the refuge late in November he found along the shore of one island about 10,000 dead ducks, and thought there would probably be about 50,000 dead over the entire lake area. He secured four mallards that were too weak to resist capture and placed them in pens, and after caring for them for several weeks banded and liberated them.

Charles M. Conger, warden of Condonully Bird Reservation, Washington, states that very few ducks have been in the vicinity of the refuge for several months. There has been plenty of open water along the creeks and marshes but the waterfowl did not stay as last year. There is a scarcity of feed for land birds throughout this district, and nongame birds are fewer in numbers at this time of the year than at any time in the memory of the warden. He is feeding wheat to a few Chinese pheasants and some Hungarian partridges remaining on the refuge.

The largest flight of Canada geese seen in years in the section about the Belle Fourche Bird Refuge, South Dakota, was reported lately by the warden. At one time 2,500 geese were on the lake and also hundreds of mallards.

Best wishes are extended to Mr. and Mrs. George M. Wilson, who were married on November 29. Mr. Wilson is warden of the Belle Fourche Bird Reservation.

MIGRATORY BIRD TREATY AND LACEY ACTS

The annual meeting of the Advisory Board, Migratory Bird Treaty Act, was held at the Cosmos Club, Washington, D. C., on December 10, with 17 members in attendance.

Great numbers of ducks are to be found on the Potomac River below Washington. A member of the Bureau who recently made a day's observation trip down the river stated that there were more ducks on that stream than he had ever before seen. He estimated conservatively that he saw 100,000 birds during the day. About 50,000 of them were lesser scaups, 30,000 canvasbacks, and 5,000 redheads. Mallards and black ducks also were plentiful, and gadwalls, old squaws, ruddy ducks, and Canada geese were seen.

An order was issued by the Acting Secretary on December 3, permitting any person, when authorized by a permit issued by the Secretary of Agriculture and countersigned by the chief official in charge of the enforcement of the fish and game laws of the State of California, to kill, by shooting, merganser ducks in California when found to be injurious to valuable game fish.

Fifteen persons were apprehended by Warden Holmes on November 24 and 25, 1925, at Scottsbluff, Nebr., for hunting wild ducks after sunset. The prosecutions, all of which were in State court, resulted in fines totaling \$225 and costs of \$72.55. One other offender prosecuted for hunting without a license was fined \$15 and costs of \$4.85.

Miss Mary O'Brien, one of our stenographers, had the misfortune to fall and break a bone in her right wrist recently.

On October 12 a true bill of indictment charging assault with intent to murder United States Game Wardens Roanen and Charlton was returned by the grand jury at Virginia, Ill., against Ferrill, Perry and Floyd Lane, according to information received by the Bureau. These parties have been arrested but are now at liberty under a bond of \$2,000 each. It is probable that the cases will be brought to trial at an early date.

The maximum fine of \$500 for a violation of the migratory-bird treaty act was assessed against William F. Taubel in Federal court at Trenton, N.J., on December 16, the charge being killing wild ducks after sunset. This was the third time this offender had been arraigned in Federal court for a violation of the game law. United States Game Warden P. K. Hilliard, of Pleasantville, N. J., and State Fish and Game Warden Ernest S. Pierce, of Manahawkin, N. J., obtained the evidence in this case.

Cases Terminated - Reports Received during November.

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Birsch	3	Virginia	Killing sandpipers	\$25 each
Bloxsom; Stevens**	1	"	Trapping ducks	\$100
Heller*	1	Missouri	Killing doves in close season	\$25
Pacetti	3	Florida	Hunting ducks before half an hour before sunrise	\$5 each
Riddick; Lewis**	1	Texas	Selling and serving ducks	\$25
Shaver; Kelsey	1	Iowa	Possessing ducks in close season	\$10
Shaver; Purdum**	3	Minnesota	Shooting at ducks after sunset	\$10 each
Smith; Foley**	2	Maine	Hunting ducks in close season	\$25 each
Visart; Thomason**	2	Arkansas	Illegal interstate shipment of ducks	\$20 each
Visart	2	"	Hunting ducks from airplane	\$15 each

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Birsch	3	Virginia	Killing sandpipers
Bloxsom; Stevens**	1	"	Trapping ducks
Brown*	1	Alabama	Killing woodpeckers
Farnham; Hilliard	2	New York	Hunting ducks after sunset
Hilliard; Degroff***	3	"	Hunting ducks after sunset
Hoffman; Moody;* Armstrong**	2	Alabama	Hunting ducks in close season

Cases Reported for Prosecution (Cont'd)

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Hoffman; Doggrell*	9	Alabama	Killing doves in close season
Kelsey	3	So. Dakota	Hunting ducks after sunset
Perry	1	Mississippi	Possessing ducks in close season
Riddick	2	Texas	Possessing doves in close season
Riddick; Hampe*	3	"	Possessing doves in close season
" "	1	"	Possessing a grebe
" "	2	"	Possessing ducks and doves in close season
Riddick; Speckles*	2	"	Possessing Bartramian sandpipers (upland plover)
Scholler*	1	Illinois	Possessing a flicker
Scholler*	1	"	Possessing a sandpiper
"	3	"	Possessing grebes
Steele	2	Nebraska	Killing swallows
Steel; Hough**	1	Iowa	Possessing a sandpiper
Walker*	2	Maryland	Possessing turnstones and sander- lings

* U. S. Deputy Game Warden

** State deputy game warden

*** Deputy sheriff



